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Fertilizer Report

January 1 to July 31, 1921

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BUREAU OF CHEMISTRY

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LETTER OF TRANSMITTAL

PENNSYLVANIA DEPARTMENT OF AGRICULTURE

BUREAU OF CHEMISTRY

Harrisburg, Pa., Dec. 23, 1921.

Hon. Fred Rasmussen,

Secretary of Agriculture,

Harrisburg, Pa.

Dear Sir:—I have the honor to transmit herewith for your approval a report of the results of the inspection of commercial fertilizers received from the authorized special sampling Agents during the Spring season of 1921, showing the detail chemical analyses of samples with explanatory remarks.

It is recommended that this report be published in bulletin form for distribution.

Very respectfully,

JAMES W. KELLOGG,

Chief Chemist.

FERTILIZER REPORT

January 1 to July 31, 1921.

INTRODUCTION

The authorized special sampling Agents obtained 1257 official samples of commercial fertilizers from the shipments found being offered for sale by the Selling Agents throughout the State. Many dealers were visited where no samples were taken to avoid duplications. After eliminating certain duplicate samples and those representing non-registered brands, 1066 were selected for chemical analysis, representing 627 different brands, registered for 1921 by 63 Manufacturing and Importing Companies. They included 6 classes, which, together with the number of samples in each, were as follows:—541 Complete Fertilizers supplying nitrogen, available phosphoric acid and water soluble potash; 181 Nitrogen and Phosphoric Acid Fertilizers, including acidulated bones and mixtures of materials supplying similar proportions of nitrogen and available phosphoric acid; 36 Ground Bone fertilizers, guaranteed for nitrogen and total phosphoric acid; 150 Acidulated Phosphate Fertilizers, supplying available phosphoric acid; 108 Rock and Potash Fertilizers, supplying available phosphoric acid and water soluble potash, and 50 Miscellaneous Fertilizers, including such base goods as Nitrate of Soda, Sulphate of Ammonia, Tankage, Kainit and Muriate of Potash.

All these samples were analyzed for the purpose of determining the correctness of the guarantees found on sacks or attached cards. The results secured showed that 126, or 11.8 per cent., of the samples were deficient in one or more forms of plant food. The majority of them, as will be noted, exceeded their guarantees, many by substantial "overages". The largest proportion of deficiencies, 16.7 per cent., occurred in the Ground Bone Fertilizers, and 14.0 per cent. of the Complete Fertilizers, and 13.9 per cent. of the Rock and Potash Fertilizers were also deficient. This proportion of deficiencies is the lowest noted for the past five years inspection work and considerably less than the preceding three Spring inspection seasons, where one-fourth of the samples were found below their guarantees. In those samples supplying nitrogen, microscopical examinations were made for the purpose of detecting the presence of certain materials supplying an inferior quality of organic nitrogen, such as are required to be named on sacks or attached cards when used and only accidental traces of such materials were noted in a few cases. One sample, labeled Pure Bone Meal, however, was found to contain a large amount of Sulphate of Ammonia, deficient in total phosphoric acid and, therefore misbranded. There were 266 samples selected from shipments where full guarantees were not printed upon sacks or attached cards as required and the majority of these cases were failures to show guarantees for total phosphoric acid.

A study was made of the character or quality of nitrogen, supplied by the fertilizers guaranteed to contain this form of plant food, which is referred to in the following pages more in detail under a paragraph on "Available Nitrogen". Determinations were made, in addition to total nitrogen, for the nitrogen which was insoluble in water and designated as "water insoluble organic nitrogen", and also for that portion of the insoluble nitrogen which was "active" to the alkaline permanganate method. This method does not show the true availability of nitrogen in fertilizers but simply is a rough measure of the "activity" of such forms of nitrogen. The fertilizers supplying like amounts of nitrogen were grouped together for the purpose of comparisons and the results obtained for "activity" and for water insoluble nitrogen show that in those guaranteed to contain 1/2 per cent. as ammonia the quality of the organic nitrogen was poor and that over one-half of the total nitrogen was insoluble in water. In the fertilizers supplying 1.00 per cent. of nitrogen as ammonia, the organic materials, supplying nitrogen, were also of poor quality and 1/2 of the total nitrogen was insoluble in water. Two samples, containing 1.68 per cent. of nitrogen, contained 1.00 per cent. of water insoluble nitrogen and the quality of this was good. There were 92 samples guaranteed 2.00 per cent. nitrogen as ammonia, averaging 1.82 per cent., and about 1/3, or .67 per cent., was the average water insoluble nitrogen, the average "activity" being 46.2 per cent, which, according to the alkaline permanganate method, signifies a poor quality of organic nitrogen. In the 3.00 per cent. brands, less than 1/2 of the nitrogen was insoluble in water, the "activity" being 50 per cent., indicating the use of a better grade of material than in the preceding brands. In the 4.00 per cent. grades, 1/3 of the total nitrogen was insoluble in water and more than 50 per cent. "active", also showing good quality materials. The few samples of 5.00 per cent. brands gave results similar to the 4.00 per cent. grades and in 1 sample each of 8.00 and 9.00 per cent. grades, less than 1/2 per cent. of nitrogen was insoluble in water, which indicates that good grades of materials were used as sources of nitrogen in these high grade brands. The conclusions, therefore, which may be drawn from this work, are that those brands of fertilizers, supplying the larger percentages of nitrogen, will, as a rule, show a higher degree of "activity" and a lower percentage of nitrogen insoluble in water, and thereby supplying more readily available plant food than would be furnished by those fertilizers guaranteed to contain the small amounts of nitrogen.

The average retail selling values were lower than those reported as prevailing for each class of fertilizers sold during the Spring and Fall seasons of 1920. Wide variations in retail prices were noted for the Complete Fertilizers, which averaged $39.36 a ton, in brands supplying the same amounts of plant food, as has been pointed out in previous Reports. Some of these differences amounted to $12.00, $16.00, $17.00, $19.75, and $36.50 a ton and clearly demonstrates that consumers should study comparative prices for like formula grades of fertilizers if they desire to secure the most value for the money expended. The Nitrogen and Phosphoric Acid Fertilizers averaged $34.45 a ton, the Ground Bone Fertilizers $55.02 a ton, Acid Phosphate Fertilizers $25.20 a ton, and the Rock and Potash Fertilizer $33.73 a ton. The average retail unit values, based on the average retail ton prices for the several classes of fertilizers, as shown in the following pages, gives approximately $7.02 to $12.41 a unit for nitrogen, $1.48 a unit for phosphoric acid and from $2.78 to $5.60 a unit for water soluble potash.

In the following pages will be found a discussion of the results of analyses for each class of fertilizers, the deficiencies, average analyses and retail prices, the results of a study of available nitrogen, and Tables showing in detail the brand names, chemical analyses and guarantees for each sample.

ACKNOWLEDGMENTS.

Mr. V. B. Hausknecht, First Assistant Chemist, had charge of the reception and preparation of samples, supervision of the details of the analytical work and the making of duplicate analyses and check determinations where required. Mr. H. E. Gensler performed the microscopical examinations. Mr. W. E. Huber supervised the preparation of tables and the assembling of the necessary data. The chemical analyses were made by the following assistant chemists: Messrs. G. J. Kuhlmann, Jr., F. B. Williams, C. R. Engle and Leroy Pennypacker. The samples were prepared for analysis by W. W. Cassel.

DISCUSSION OF THE RESULTS OF INSPECTION.

COMPLETE FERTILIZERS.

Analyses in Table 1.

Of the total number of samples received and analyzed, more than one-half, or 541, were Complete Fertilizers, supplying nitrogen, available phosphoric acid and potash, representing 324 different brands, registered by 54 companies. They were guaranteed to contain from ¼ to 8 per cent. nitrogen as ammonia, from ½ per cent. in a brand of low-grade fertilizer excluded from the averages, and 4 per cent. to 13¾ per cent. available phosphoric acid and from ¼ to 10 per cent. water soluble potash. Upon analysis, excluding the low grade brand, they were found to contain from .40 to 5.83, averaging 1.47 per cent. nitrogen from 5.12 to 14.15, averaging 8.95 per cent. available phosphoric acid and from .50 to 10.71, averaging 2.83 per cent. potash. They also analyzed from 6.40 to 18.82, averaging 10.12 per cent. total phosphoric acid, and from .10 to 8.92, averaging 1.17 per cent. insoluble phosphoric acid. These averages were close to those esimated for the brands analyzed during the preceding Spring and Fall seasons of 1920. Most of the samples, or 486, contained potash as muriate. Forty-three contained potash in both muriate and sulphate forms and in 12 samples the potash was estimated as being present as sulphate. There were 13 samples representing 10 brands in which the brand names included the word "tobacco" indicating that they were intended especially for fertilizing this crop and in 6 of these samples the potash was present as muriate, 1 contained sulphate of potash and in 6 samples potash was included in both forms instead of it all being present as sulphate of potash as should have been expected.

The results of analyses show that the larger proportion of the samples exceeded their guarantees, however, of this class of fertilizers there were 76, or 14.0 per cent., found deficient in one or more forms of plant food and of this number 8, or 1.5 per cent., contained less nitrogen, 30, or 5.5 per cent., contained less available phosphoric acid and 42, or 7.8 per cent., contained less potash than guaranteed. The maximum deficiencies amounted to 1.03 per cent. nitrogen, 2.90 per cent. available phosphoric acid and 0.98 per cent. water soluble potash. A comparison of these deficiencies, with those noted in the samples obtained during the previous Spring of 1921, where 34 per cent. were deficient, and those of the previous Fall, where 20 per cent. were deficient, shows a marked decrease in failures to meet claimed guarantees. A considerable improvement was noted in the methods of labeling and showing complete information, although there were 139 samples selected from shipments where full guarantees were not shown as required. With one exception where the potash figure was omitted, these shipments failed to show guarantees for total phosphoric acid including one where none of the guarantees were included.

The retail selling prices reported by the special Agents for the Complete Fertilizers ranged from $23.50 to $72.00, and averaged $39.36 a ton, showing a decrease from the average retail price of $46.82 for the preceding Fall Complete Fertilizers and from $44.15 for the same class sold during the Spring of 1920. The brand of fertilizer having the lowest retail value contained 1.98 per cent. nitrogen, 9.14 per cent. available phosphoric acid and 1.48 per cent. potash, and that having the highest retail selling value analyzed 4.10 per cent. nitrogen, 7.13 per cent. available phosphoric acid and 7.20 per cent. potash. These figures do not include a low grade fertilizer sold in small packages for which the ton value would exceed the highest value above noted, and while they are not conclusive in the instances noted, they will indicate that in the maximum value it cost $48.50 a ton for a total of 5.83 per cent. more plant food than in the case of the fertilizer sold for the lowest value. As has been pointed out in previous reports, it is important to consider carefully the formulas of fertilizers and the retail selling prices if the largest amount of plant food is to be had for the money expended. There were 65 different formula grades of Complete Fertilizers included and of this number 59 samples and 30 brands had the formula 1-8-1 and an average retail price of $33.12 a ton. Of this grade, supplying the same amount of plant food, the prices varied from $26.00 to $42.00, a difference of $16.00 a ton for like grades of fertilizers. There were 38 brands, including 59 samples, having the formula 2-8-2, averaging $38.93 a ton, which varied from $23.50 to $60.00, showing a difference of $36.00 a ton for fertilizers supplying the same amounts of plant food. The 1-8-4 grades, including 50 samples, represented 27 brands, averaging $40.07 a ton, ranging from $33.00 to $50.00, or a difference of $17.00 a ton. The fertilizers having the formula 1-8-2 included 58 samples and 34 brands and averaged $34.97 a ton, varying from $26.25 to $46.00, or a difference of $19.75 a ton. The 37 samples of fertilizers, including 22 brands, having the formula 1-7-1 ranged from $28.00 to $40.00 and averaged $33.65, or a difference of $12.00 a ton for like grades of materials. Similar comparisons may also be had in other grades where a less number of samples and brands were included, however, these figures, showing marked differences between minimum and maximum retail ton prices, will clearly indicate the importance of carefully considering the grades of fertilizers and the prices quoted before purchases are made. It is further evident that the higher grades are cheaper to purchase as the selling prices are not proportionately higher than those charged for the low grade brands. In order that these values may be more clearly demonstrated a Table has been prepared showing the different formulas of the Complete Fertilizers, the number of brands and samples in each, together with the average compositions and retail selling prices, which follows:

Formula	Number of Brands.	Number of Samples.	Nitrogen.	Phosphoric Acid.	Potash.	Price.
			%	%	%	
¼-9-¼,	1	1	0.40	9.00	0.50	$29 50
½-6-1,	1	1	0.65	6.72	1.26	--------
½-7-1,	1	1	0.76	8.09	1.25	24 00
½-7-2,	1	2	0.77	7.30	2.54	31 00
½-7-3,	1	1	0.71	7.48	3.05	28 00
½-8-1,	6	10	0.59	8.98	1.18	30 89
½-8-2,	5	10	0.66	8.75	2.16	32 38
¾-8-3,	1	1	0.99	8.56	3.47	35 00
1-5-1,	1	1	1.32	8.10	2.30	32 00
1-7-1,	22	37	1.01	7.66	1.19	33 65
1-7-4,	1	1	1.00	8.53	4.50	--------
1-8-1,	30	59	1.02	8.75	1.26	33 12
1-8-2,	34	58	0.99	8.79	2.18	34 97
1-8-3,	4	6	1.04	8.61	3.17	35 26
1-8-4,	27	50	1.00	8.64	4.13	40 07
1-8-5,	1	2	1.07	8.96	5.41	40 38
1-8-6,	1	3	0.95	8.82	5.86	45 33
1-9-1,	1	2	1.02	9.36	1.00	33 08
1-9-2,	5	12	1.12	9.56	2.31	35 89
1-9-3,	16	31	1.02	9.82	3.05	37 74
1-9-4,	1	1	1.01	9.45	4.78	41 00
1-10-1,	5	7	1.01	10.26	1.09	38 36
1-10-2,	1	3	0.90	11.20	1.96	32 65
1-11-2,	1	1	1.25	11.64	3.11	--------
1¼-9-1,	2	2	1.25	9.81	1.30	35 00
1½-½-½,	1	1	2.08	0.89	0.46	35 00
1¾-7-2,	1	3	1.76	7.35	2.22	37 08
1¾-8-4,	1	1	1.68	9.69	3.52	45 00
1¾-9-1,	1	1	1.73	8.01	1.40	--------
2-6-2,	1	1	1.99	8.07	2.05	40 00
2-6-3,	2	4	1.68	6.77	2.95	40 02
2-8-1,	1	1	2.84	9.12	1.07	38 00
2-8-2,	38	59	1.81	8.77	2.22	38 93
2-8-3,	17	33	1.84	8.75	3.15	42 81
2-8-4,	14	20	1.84	8.98	4.13	45 05
2-8-5,	15	30	1.90	8.51	5.26	47 51
2-8-10,	3	4	1.87	8.74	10.49	60 48
2-9-1,	1	1	2.05	9.91	1.20	--------
2-9-5,	1	1	2.01	10.54	5.01	46 00
2-10-2,	5	7	1.80	10 31	2.35	41 67
2-10-4,	3	5	1.80	10 83	4.43	45 49
2-10-6,	1	1	1.78	9.72	6.38	50 00
2-12-2,	11	22	1.79	12.80	2.22	40 96
2½-13¾-5,	1	1	2.16	10.85	6.01	40 00
3-8-1,	1	2	2.85	9.25	1.59	37 63
3-8-3,	3	5	2.73	8.86	3.35	52 00
3-8-4,	4	4	2.49	8.92	4.11	47 95
3-9-2,	1	1	2.80	8.12	2.29	45 00
3-10-2,	1	1	1.67	7.73	1.05	48 00
3-10-6,	1	1	2.99	10.90	7.22	60 00
3-12-3,	1	1	2.68	12.51	3.66	--------
4-5-2,	1	1	3.84	5.60	1.69	50 00
4-7-5,	1	1	3.18	7.13	4.42	61 00
4-8-2,	1	1	3.96	8.79	2.35	54 00
4-8-3,	3	3	3.18	8.36	3.50	58 58
4-8-4,	4	5	3.32	8.50	4.20	49 00
4-8-5,	3	3	3.48	8.64	5.39	48 83
4-8-6,	2	2	3.34	8.18	6.30	60 00
4-8-7,	1	2	3.31	8.74	7.20	56 75
4-10-4,	1	1	3.64	10.35	4.54	--------
5-4-5,	3	3	4.02	4.59	5.28	65 22
5-6-1,	1	1	5.83	5.12	0.90	56 00
5-7-5,	1	1	3.85	7.99	5.00	58 25
5-8-7,	1	2	4.13	7.80	7.28	67 00
8-4-2,	1	1	5.55	5.98	2.60	64 00
65 Totals,	324	541	1.47	8.95	2.83	$39 36

NITROGEN AND PHOSPHORIC ACID FERTILIZERS.

Analyses in Table II.

The Nitrogen and Phosphoric Acid Fertilizers analyzed numbered 181 samples and 119 brands, registered by 39 companies. They included dissolved or acidulated bones and mixtures of materials supplying comparative amounts of plant food and were guaranteed to contain from .41 to 7.38 per cent. nitrogen and from 6 to 14 per cent. available phosphoric acid. Nearly one-half of the samples represented brands guaranteed .82 per cent. and one-third 1.65 per cent. nitrogen and one-half of the samples were guaranteed to contain 10. per cent. and one-fifth 8. per cent. available phosphoric acid. There were 44 samples selected from shipments where complete guarantees were not shown as required, and 1 of these had no guarantee for nitrogen and 43 had none for total phosphoric acid printed on sacks or attached cards, also including 7 cases where nitrogen guarantees were omitted. They were found to contain, upon analysis, .58 to 7.50, averaging 1.52 per cent. nitrogen and from 6.99 to 16.12, averaging 10.53 per cent. available phosphoric acid. They also contained from 8.29 to 18.69, averaging 11.83 per cent. total phosphoric acid and from .10 to 7.17, averaging 1.30 per cent. insoluble phosphoric acid. Nineteen of this class of fertilizers, or 10.5 per cent., failed to meet their guarantees, the majority exceeding the claims made and of this number 2, or 1.1 per cent., were classed as being deficient in nitrogen and 17, or 9.4 per cent., were deficient in available phosphoric acid, showing a marked decrease in deficiencies compared with this class of fertilizers analyzed during the preceding Fall and Spring inspection seasons. The greatest deficiencies amounted to 1.31 per cent. in nitrogen and 1.98 per cent. in available phosphoric acid. The retail selling prices were reported as being from $22.00 to $60.00 and averaged $34.45 a ton, being much lower than the average retail selling values of $41.96 for the Fall and of $38.49 a ton for the Spring seasons of 1920. The brand of fertilizer having the lowest retail value contained .90 per cent. and 9.06 per cent. and that having the highest value contained 3.45 per cent. and 12.65 per cent. respectively of nitrogen and available phosphoric acid.

GROUND BONE FERTILIZERS.

Analyses in Table III.

The Ground Bone Fertilizers, included 36 samples, representing 28 brands, registered by 23 companies. They were guaranteed to contain from 1.60 to 3.70 per cent. nitrogen and from 18.30 to 27.00 per cent. total phosphoric acid and upon analysis were found to vary in their composition from 1.74 to 4.98, averaging 3.20 per cent. nitrogen and from 17.00 to 29.15, averaging 24.46 per cent. total phosphoric acid. Determinations were made for the degree of fineness in each case by sieving through a 1-50th of an inch mesh sieve, which results showed varations of from 37 to 79, averaging 63 per cent. "Fine" and from 21 to 63, averaging 37 per cent. " Coarse". Six, or 16.7 per cent. of the samples failed to meet their guarantees and of this number 2, or 5.6 per cent., were low in nitrogen and 4, or 11.1 per cent., were low in total phosphoric acid. Three samples were selected from shipments not completely guaranteed as required and 1 sample, No. 736, was secured form a shipment which was not only deficient in total phosphoric acid but found to contain sulphate of ammonia and, therefore, misbranded and not Pure Bone Meal as claimed. There was a marked decrease in the number of deficiencies compared with this class of fertilizers examined during the two preceding inspection seasons. The greatest varations from guarantees noted were .35 per cent. in the case of nitrogen and 3 per cent. in the case of total phosphoric acid.

ACIDULATED PHOSPHATE FERTILIZERS.

Analyses in Table IV.

The Acidulated Phosphate Fertilizers sold as a source of supplying available phosphoric acid, are represented by 150 samples and 62 brands, registered by 38 companies. There were 125 samples representing brands with guarantees of 16 per cent., 12 with 13 per cent., 11 with 14 per cent. and 2 with 20 per cent. of available phosphoric acid. Shipments from which 47 samples were selected were not found labeled with guarantees for total phosphoric acid as required. These

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fertilizers were found, upon analyses, to contain from 11.69 to 22.08, averaging 17.00 per cent. available phosphoric acid and the total phosphoric acid ranged from 13.27 to 22.54, averaging 17.80 per cent. and the insoluble phosphoric acid from .08 to 3.04, averaging .80 per cent. Seven, or 4.7 per cent., of the samples were found deficient in available phosphoric acid, a decided improvement in this respect compared with the samples of this class of fertilizers represented by those analyzed during the two preceding Fall and Spring inspection seasons. The retail selling prices reported were from $20.00 to $37.00 and averaged $25.20 a ton, which would be equivalent to $1.48 a unit or 7 cents a pound for phosphoric acid. This average retail value was less than that of $32.43 a ton for the preceding Fall brands and $28.03 a ton for the preceding Spring brands of 1921 for this class of fertilizers. There were 4 samples representing shipments having the lowest retail value of $20.00 a ton, which contained 13.67, 17.80, 17.96, and 18.26 per cent. of available phosphoric acid and the shipment represented as selling for $37.00 a ton contained 17.97 per cent. available phosphoric acid, a difference of $17.00 a ton for acid phosphate of about the same composition.

ROCK AND POTASH FERTILIZERS.

Analyses in Table V.

The materials supplying available phosphoric acid and water soluble potash, being mixtures of Acidulated phosphate Rock and Potash Salts with certain fillers and classfied as Rock and Potash Fertilizers, which were selected for analysis, numbered 108 samples and 64 brands, registered by 28 companies. They were guaranteed from 5.00 to 12.00 per cent. available phosphoric acid and from 2.00 to 8.00 per cent. potash and were found to contain from 8.20 to 14.26, averaging 10.94 per cent. available phosphoric acid and from 1.55 to 8.15, averaging 3.13 per cent. potash. The total phosphoric acid determinations showed results of from 9.32 to 16.02, averagaing 11.86 per cent and the insoluble phosphoric acid varied from .16 to 2.96, averaging .92 per cent. Four samples of one brand were excluded in estimating the minimum, maximum and average results because they were entirely different in their formula and character from the remaining brands. The potash was estimated as being in the muriate form in 96 samples, as sulphate of potash in 3, in both these forms in 5 and 4 samples of 1 brand the potash was in the form of carbonate derived from plant ashes. Fifteen, or 13.9 per cent., of the samples failed to meet their guarantees in one or both forms of plant food and of these

8, or 7.4 per cent., were deficient in available phosphoric acid and the same number in potash. Compared with the samples of this class secured during the preceding Fall and Spring seasons there was decided improvement in correct guaranteeing, There were 23 samples, which represented shipments not guaranteed for total phosphoric acid as required. The greatest deficiencies amounted to 1.35 per cent. in available phosphoric acid and 3.01 per cent. in potash. The retail selling prices were reported as being from $23.75, in a brand analyzing 11.58 per cent. available phosphoric acid and 5.06 per cent. potash, to $57.00 a ton in one containing 13.18 per cent. available phosphoric acid and 4.41 per cent. potash, and averaged $33.73 a ton compared with the average retail value for Rock and Potash Fertilizers of $40.31 and $36.96 a ton for the preceding respective Fall and Spring seasons' brands.

MISCELLANEOUS FERTILIZERS.

Analyses in Table VI.

The materials classified as Miscellaneous Fertilizers numbered 50 samples and 35 brands, registered by 20 companies, and included 26 samples of Nitrate of Soda, averaging 15.73 per cent. nitrogen and $75.82 a ton as the retail selling price; 5 samples of Sulphate of Ammonia, having an average of 21.25 per cent. nitrogen and selling for $74.04 a ton; 10 samples of Tankage, averaging 5.79 per cent. nitrogen, 10.62 per cent. total phosphoric acid and $52.86 a ton; 3 samples of Kainit, averaging 16.70 per cent. potash and $26.22 a ton, and 6 samples of Muriate of Potash, having an average potash content of 51.14 per cent. and a retail value of $117.57 a ton. Shipments from which 10 of these Miscellaneous samples were obtained were not fully labeled, as required, as guarantees were omitted for nitrogen in the case of 5 samples of Nitrate of Soda and in the remaining cases guarantees for total phosphoric acid and potash were not shown on sacks or attached cards. Only three, or 6 per cent., of this class of fertilizers were found to be deficient, which occured in the case of Tankage where the phosphoric acid ran from .58 per cent. to .78 per cent. below the guarantees.

DEFICIENCIES.

The fertilizers considered as being deficient were those where the amounts of nitrogen, total or available phosphoric acid and water soluble potash were found, upon analysis, to be .20 per cent. or more below their guarantees and where the guarantees were .50 per cent.

or less samples were also considered deficient if they were .10 per cent. below such guarantees. In the tables, showing analytical results, the percentages, where deficiencies occured, are indicated by an asterisk (*). Of the 1066 samples analyzed during the Spring season 126, or 11.8 per cent., were deficient in one or more forms of plant food. This is by far the lowest proportion of deficient samples noted, compared with those analyzed during the last five years of inspection work, and shows a decided improvement in labeling with correct guarantees. Of the samples analyzed during the corresponding Spring seasons of 1920, 1919 and 1918, there were 29.9 per cent., 25.5 per cent. and 27.5 per cent. of the total samples analyzed deficient in one or more of their guaranteed constituents. Considering the individual determinations of the 799 samples guaranteed for nitrogen, there were 12 or 1.5 per cent. deficient. Of the 980 guaranteed for available phosphoric acid 62, or 6.3 per cent. were deficient. Of the 658 guaranteed for potash 50, or 7.6 per cent. were deficient. There were 46 samples representing brands guaranteed for total phosphoric acid and 7 of these, or 15.2 per cent., were less than claimed. The greater proportion of the fertilizers, as will be noted by referring to the tables, showed "overages". There were 366, or one-third of the total number of samples received, however, which were obtained from shipments which did not show complete guarantees as required. Nearly all of these cases were failures to show guarantees for total phosphoric acid, which are also required in addition to those for available phosphoric acid. The largest proportion of deficiencies occured in the Ground Bone Fertilizers, showing 16.7 per cent. of failures to meet guarantees, followed by 14.0 per cent. in the Complete Fertilizers, and 13.9 per cent. in the Rock and Potash Fertilizers.

The number of cases in each class of fertilizers, where deficiencies occurred in one or more elements of plant food, have already been cited in the foregoing pages under each class. The number of samples of each class of fertilizers received and the number deficient in nitrogen, phosphoric acid and potash are shown in the following table:

Classes of Fertilizers.	Number of samples.	Deficient in nitrogen.	Deficient in available phosphoric acid.	Deficient in potash.
Complete fertilizers,	541	8	30	42
Nitrogen and phosphoric acid fertilizers,	181	2	17	----------
Ground bone fertilizers,	36	2	*4	----------
Acidulated phosphate fertilizers,	150	----------	7	----------
Rock and potash fertilizers,	108	----------	8	8
Miscellaneous fertilizers,	50	----------	*3	----------
Totals,	1066	12	69	50

*Total phosphoric acid.

AVERAGE ANALYSES AND RETAIL PRICES.

In order that a comparison of the compositions and retail selling prices of the five classes of fertilizers might be had, the results of analysis of each sample and the retail selling prices reported for the shipments which they represented, were averaged and tabulated as follows:

	Complete fertilizers.	Nitrogen and phosphoric acid fertilizers (dissolved bone, etc.)	Ground bone fertilizers.	Acidulated phosphate fertilizers.	Rock and potash fertilizers.
Number of samples,	541	181	36	150	108
	%	%	%	%	%
Moisture,	5.45	4.51	4.50	8.65	5.01
Total nitrogen,	1.47	1.52	3.20	----------	----------
Total phosphoric acid,	10.12	11.83	24.46	17.80	11.86
Available phosphoric acid,	8.95	10.53	----------	17.00	10.94
Insoluble phosphoric acid,	1.17	1.30	----------	0.80	0.92
Potash,	2.83	----------	----------	----------	3.13
Mechanical Analysis of Bone:					
Fine,	----------	----------	63	----------	----------
Coarse,	----------	----------	37	----------	----------
Selling price,	$39.36	$34.45	$55.02	$25.20	$33.73

A comparison of the average compositions of each class, with the preceding Fall season's fertilizers and those of the corresponding Spring season of 1921 show no marked variations except in the following cases. The Complete Fertilizers averaged .21 per cent. nitrogen and .47 per cent. available phosphoric acid in excess of those of the preceding Fall's brands. The Ground Bones averaged approximately 1 per cent. more total phosphoric acid than noted for this class of materials in both the preceding Spring and Fall brands and the Acidulated Phosphate Fertilizers averaged .92 per cent. more available phosphoric acid than did this class of materials during the corresponding Spring season preceding.

The average retail selling prices for each class of fertilizers were considerably lower than those estimated for these classes analyzed during the preceding Fall season, the drop in values being as follows: Complete Fertilizers, $7.46; Nitrogen and Phosphoric Acid Fertilizers, $7.51; Ground Bone Fertilizers, $8.41; Acidulated Phosphate Fertilizers $7.23; Rock and Potash Fertilizers, $6.58, giving an average of $7.44 less than the average prices estimated for the preceding Fall fertilizers, which were in turn in excess of the average values for the same classes of fertilizers reported for the brands selected during the preceding Spring season of 1920. In order to arrive at a comparison of the unit values of nitrogen, available phosphoric acid and water soluble potash, based on the average analyses and selling values of the several classes of fertilizers, the average retail selling prices of the Acid Phosphates, divided by the average per cent. of available phosphoric acid, would give the average retail unit value of this form of plant food. By making use of this unit value and the average analysis and selling price for the Nitrogen and Phosphoric Acid Fertilizers a retail unit value for nitrogen in this class of fertilizers can be estimated. In a like manner, by making use of the unit values for phosphoric acid and nitrogen thus obtained and the average analysis and selling price for the Complete Fertilizers, the retail unit value of potash is secured. These average values would be equivalent to $12.41 a unit, or 62¢ a pound for nitrogen $1.48 a unit, or 7¢ a pound for phosphoric acid and $2.78 a unit, or 14¢ a pound, for potash. The retail value of potash can, in a similar manner, be also estimated in the Rock and Potash Fertilizers by making use of the average composition and value of this class of materials and $1.48 a unit for phosphoric acid which would give $5.60 a unit, or 28¢ a pound, for potash. Another value for nitrogen can also be determined by using the unit value for phosphoric acid and the value of $5.60 a unit for potash in the Rock and Potash Fertilizers and applying these values to the average composition and selling prices of the Complete Fertilizers, which would give a retail unit value of nitrogen of $7.02, or 35¢ a pound. These retail values, therefore, are from $7.02 to $12.41 a unit for nitrogen. $1.48 a unit for phosphoric acid in the available form and from $2.78 to $5.60 for water soluble potash. They are somewhat less, as would be expected, than noted for the same values in the fertilizers received during the corresponding Spring season. Compared with the preceding fall brands they are from $2.59 to $3.06 lower for nitrogen, 45¢ a unit lower for phosphoric acid and from $1.83 to $1.67 lower for potash, showing a decided decrease in the unit value for the plant food contained in the fertilizers representing the Spring of 1921 brands. The unit values prevailing in the base goods were much lower than in the mixed fertilizers and were estimated as follows. There were 26 samples of Nitrate of Soda, averaging 15.73 per cent. nitrogen and $75.82 a ton, which would give a value of $4.82 a unit for nitrogen and from the average of 21.25 per cent. nitrogen in the 5 samples of Sulphate of Ammonia, averaging $74.04 a ton, a value of $3.48 a unit for nitrogen is secured, giving an average of $4.15 a unit, or 21¢ a pound, for nitrogen in these two classes of materials. Applying this average value of nitrogen to the average retail value of 10 samples of Tankage, showing 5.79 per cent. nitrogen and making use of the average of 10.62 per cent. total phosphoric acid and retail selling price of $52.86 a ton, a value of $2.71 a unit is obtained for total phosphoric acid. Three samples of Kainit, averaging 6.70 per cent. potash and retailing at $26.22 a ton, would give a value of $1.57 a unit for potash and from the 6 samples of Muriate of Potash, averaging 51.14 per cent. and retailing at an average of $117.57 a ton, $2.30 a unit is secured, or an average of $1.94 a unit, or 10¢ a pound for potash in these two forms of potash salt.

AVAILABILITY OF NITROGEN.

Considerable time and energy have been expended for several years in attempting to show the extent to which the amount of nitrogen, supplied by fertilizers, is available, or readily made use of by growing plants. As yet no method has been developed which will show, with any degree of accuracy, the percentage of the total nitrogen in a fertilizer which would be considered as available in the same sense as the phosphoric acid is considered available as determined by the well-known and accepted methods of analysis. It is generally conceded, however, that the portion of nitrogen which is readily soluble in distilled water and which includes the nitrogen in the form of inorganic or mineral salts, together with a portion of the organic nitrogen supplied by vegetable or animal by-products, is available. The portion which is not dissolved by water is considered as "water insoluble organic nitrogen", a term which does not signify clearly to the average layman or user of commercial fertilizers the quality of nitrogen included. Two methods have been developed, the alkaline and neutral permanganate methods, and now accepted as official, for approximating that portion of this water soluble nitrogen which is "active" to the chemicals used. The alkaline method is largely used by the Departments of Agriculture and Experiment Stations in the Northern states and was intended to show the percentage activity of the insoluble organic nitrogen in fertilizers, but it does not, however, give a true measure of the real availability of the total nitrogen. The results thus obtained are understood to show that if the "activity", as determined by this method, is less than 50 per cent., all the material used in supplying organic nitrogen was of "poor" or "inferior" quality and conversely if the "activity" was found to be in excess of 50 per cent. the source of supply was considered as having been of "good" quality. Therefore while the results secured by the alkaline permanganate method cannot be recognized as indicating how much of the total nitrogen in a fertilizer is really available to the plant, it will give a rough estimate of the kind of organic materials used in mixed fertilizers for the purpose of supplying this form of nitrogen which they contain. The percentage of water insoluble nitrogen contained in a fertilizer is important to note because if it amounts to as much as one-third of the total nitrogen, or even more than this, it may be concluded that the organic nitrogen is not of the best quality.

A study has been made, by making use of the alkaline permanganate method, of the character of organic nitrogen present in the fertilizers supplying this plant food, which were obtained during the Spring season. Determinations were made for the percentages of water insoluble nitrogen and the "active" organic nitrogen and the results secured clearly indicate that the fertilizers of the higher grades, or those having the larger formulas, contain nitrogen in the most available form. The samples supplying nitrogen were, for the purpose of comparison, grouped according to their contents of nitrogen as ammonia, containing from .41 per cent. nitrogen and ½ of 1 per cent. ammonia, to 9 per cent. nitrogen and 11.94 per cent. ammonia. In order that the results secured may be shown in as brief a form as possible, each company, whose goods are represented, were given a letter commencing in their alphabetical order. These letters, indicating the name of the company whose goods were examined for the character or activity of organic nitrogen, together with the results for total and water insoluble nitrogen, including averages where more than one sample was obtained, and the percentages of "activity", as determined by the alkaline permanganate method, are as follows: The Allentown Manufacturers Company,—A; The American Agricultural Chemical Company.—B; American Fertilizing Company,—C; Armour Fertilizer Works,—D; Baugh & Sons Company,—E; Bowker Fertilizer Company,—F; The Bryant Fertilizer Company,—G; The Central Chemical Company,—H; The Coe-Mortimer Company,—I; Columbia Guano Company,—J; The Consumers Chemical Corporation,—K; The James G. Downward Company.—L; Eastern Guano Company,—M; Eureka Chemical Company,—N; Farmers' Fertilizer Works,—O; Joseph R. Gawthrop,—P; Griffith & Boyd Company.—Q; S. M. Hess & Brother, Inc.,—R; M. P. Hubbard & Company, Inc.,—S; The Hubbard Fertilizer Company, —T; International Agricultcral Corporation, Inc.,—U; Keystone Bone Fertilizer Company,—V; The Keystone Grange,—W; The Lancaster Bone Fertilizer Company,—X; Lancaster Chemical Company, —Y; Lebanon Fertilizer Works,—Z; Listers Agricultural Chemical Works,--AA; The Mapes Formula & Peruvian Guano Company,—BB; The Martin Fertilizer Company,—CC; The Miller Fertilizer Company.—DD; Nitrate Agencies Company,—EE; G. Ober & Sons Company,FF; Oxford Packing Works,—GG; Patapsco Guano Company, —HH; Piedmont Mt. Airy Guano Company,—II; Pittsburgh Provision and Packing Company,—JJ; Rasin-Monumental Company, —KK; Reading Bone Fertilizer Company,—LL; Reading Chemical Company,—MM; Robert A. Reichard.—NN; F. S. Royster Guano Company,—OO; Schaal-Sheldon Fertilizer Company,—PP; Sharon Rendering and Fertilizer Works,—QQ; Swift & ompany,—RR; I. P. Thomas & Son Company,—SS; F. W. Tunnell & Company, Inc.,—TT; United States Guano Company.—UU; Virginia-Carolina Chemical Company,—VV; Washington, Alexander & Cooke Company,—WW; York Chemical Works,—XX.

.41% NITROGEN—1/2% AMMONIA

COMPANY	NO. SAMPLES	TOTAL	WATER INSOLUBLE	ACTIVITY
		%	%	%
C	1	0.71	0.31	36.4
Q	3	0.74	0.33	38.3
S	2	0.48	0.40	30.6
T	1	0.63	0.44	32.0
Y	1	0.44	0.15	24.6
Total Average	8	0.62	0.33	32.7

.82% NITROGEN—1 % AMMONIA

COMPANY	NO. SAMPLES	TOTAL	WATER INSOLUBLE	ACTIVITY
	%	%	%	%
B	15	0.94	0.40	50.6
C	2	1.01	0.47	42.6
D	3	1.02	0.61	33.6
E	3	1.08	0.48	38.1
F	3	1.10	0.33	43.7
H	3	1.02	0.31	31.6
I	3	1.13	0.57	43.7
J	2	1.00	0.54	41.1
K	2	1.03	0.52	37.3
L	1	1.13	0.68	31.6
O	1	0.80	0.80	22.2
P	1	1.32	0.85	24.4
Q	2	1.03	0.50	43.2
R	3	1.09	0.52	50.1
S	1	0.94	0.54	31.6
T	2	1.07	0.53	33.3
U	2	1.12	0.48	41.1
V	1	1.20	0.77	51.0
X	1	0.90	0.37	33.0
Y	1	0.90	0.14	29.6
Z	1	0.83	0.58	27.2
AA	3	0.91	0.35	36.8
CC	2	1.16	0.31	59.9
DD	2	1.03	0.48	29.0
EE	1	1.21	0.72	44.8
FF	3	1.13	0.58	36.8
HH	3	1.09	0.33	37.0
II	2	1.08	0.33	46.5
KK	2	1.00	0.65	35.7
LL	2	0.94	0.22	55.9
MM	3	0.97	0.46	31.6
OO	3	1.00	0.45	47.0
PP	1	1.01	0.45	46.0
RR	3	0.98	0.53	38.7
SS	2	1.12	0.44	42.2
UU	1	1.28	0.48	52.6
VV	1	1.00	0.44	32.8
XX	3	1.00	0.48	31.5
Total Average	90	1.02	0.47	41.2

1.23% NITROGEN—1½% AMMONIA

COMPANY	NO. SAMPLES	TOTAL	WATER INSOLUBLE	ACTIVITY
	%	%	%	%
Q	1	1.67	0.91	44.2
GG	1	1.68	1.10	56.0
Average	2	1.68	1.00	50.1

1.65% NITROGEN—2% AMMONIA

COMPANY	NO. SAMPLES	TOTAL	WATER INSOLUBLE	ACTIVITY
	%	%	%	%
A	1	1.90	0.98	37.0
B	15	1.87	0.60	60.1
C	2	1.71	0.96	41.1
D	2	1.87	0.68	46.9
E	4	1.86	0.53	47.5
F	2	2.00	0.58	57.8
G	1	2.06	0.38	72.6
H	4	1.63	0.38	34.5
I	2	1.83	0.58	40.0
J	3	1.68	0.58	44.7
L	1	1.70	0.36	32.8
M	1	1.67	0.33	38.8
N	1	1.80	0.44	32.6
Q	1	1.95	0.75	50.4
R	3	1.79	0.59	48.1
T	2	1.91	0.53	40.9
U	2	1.80	0.84	55.4
V	2	2.16	1.18	60.5
W	2	1.84	0.57	58.2
Z	2	1.69	0.95	37.5
AA	3	1.81	0.48	46.5
BB	1	1.95	0.50	38.4
CC	1	1.51	0.74	54.4
DD	2	1.77	0.62	37.9
EE	1	1.79	0.66	47.6
FF	2	1.94	0.71	40.0
HH	2	1.87	0.59	39.4
II	2	1.71	0.84	34.9
JJ	1	1.73	1.39	45.4
KK	3	1.91	0.99	46.4
LL	1	1.78	0.21	56.2
MM	3	1.72	0.54	33.3
NN	2	1.73	0.73	57.7
OO	3	1.74	0.64	48.9
RR	3	1.76	0.70	60.7
SS	2	1.76	0.69	44.4
TT	1	1.78	1.40	54.0
VV	2	2.10	1.17	44.1
WW	1	1.68	1.10	41.0
XX	3	1.74	0.53	29.8
Total Average	92	1.82	0.67	46.2

2.06 % NITROGEN—2½% AMMONIA.

COMPANY	NO. SAMPLES	TOTAL	WATER INSOLUBLE	ACTIVITY
		%	%	%
QQ	1	2.16	1.26	70.0

2.47% NITROGEN—3% AMMONIA.

COMPANY	NO. SAMPLES	TOTAL	WATER INSOLUBLE	ACTIVITY
		%	%	%
B	2	2.42	0.54	48.3
D	1	2.80	1.31	68.3
E	1	2.79	0.52	48.2
G	1	2.99	0.55	54.6
L	1	1.67	0.63	25.0
Q	1	2.60	0.80	50.4
Z	1	2.68	0.81	48.0
AA	1	2.80	0.70	44.8
FF	1	2.89	0.88	51.0
HH	1	3.21	1.18	53.0
SS	1	2.38	0.74	56.4
Total Average	12	2.64	0.76	49.7

3.29% NITROGEN—4% AMONIA.

COMPANY	NO. SAMPLES	TOTAL	WATER INSOLUBLE	ACTIVITY
		%	%	%
A	1	3.84	1.85	38.2
B	2	3.22	0.74	50.6
C	1	2.95	0.94	49.0
H	2	3.21	0.60	44.2
I	1	3.26	1.54	53.6
Y	1	3.40	1.86	45.4
AA	1	3.28	0.74	52.4
BB	1	3.18	0.65	50.2
EE	1	3.23	0.99	59.6
LL	1	3.68	0.50	76.0
RR	1	3.52	1.00	58.0
SS	1	3.61	0.49	55.4
TT	2	3.69	1.40	55.7
UU	1	3.52	2.19	56.4
XX	1	3.64	0.44	30.6
Total Average	18	3.41	1.03	51.4

4.11% NITROGEN—5% AMMONIA.

COMPANY	NO. SAMPLES	TOTAL	WATER INSOLUBLE	ACTIVITY
		%	%	%
BB	2	5.02	1.58	51.1
EE	1	4.46	2.35	59.8
HH	1	3.85	0.71	46.4
XX	1	4.16	0.85	41.8
Total Average	5	4.50	1.41	50.0

6.58% NITROGEN—8% AMMONIA.

COMPANY	NO. SAMPLES	TOTAL	WATER INSOLUBLE	ACTIVITY
		%	%	%
Q	1	6.55	0.44	44.0

7.38% NITROGEN—9% AMONIA.

COMPANY	NO. SAMPLES	TOTAL	WATER INSOLUBLE	ACTIVITY
		%	%	%
O	1	7.50	0.51	43.0

KEY TO TABLES.

The following tables include the detailed results of chemical analyses of each sample. All samples were given a chemist's number as shown in the extreme left and right hand columns and are grouped in alphabetical order of manufactures and brand names. Each class is shown in separate tables and the following information will serve as a key to these tables:

The asterisk (*) indicates the cases where total nitrogen, available phosphoric acid and total potash are deficient to the extent of .2 per cent. or more below their respective guarantees. In cases where the guarantees are .5 per cent. or less the deficiences noted are where the amount is .1 per cent. or more below the guarantees.

Order of results of analysis: Moisture, Total Nitrogen found and guaranteed, Total Phosphoric Acid found and guaranteed; Available Phosphoric Acid found and guaranteed; Insoluble Phosphoric Acid found and guaranteed; Total Potash found and guaranteed, and Potash as Muriate and as Sulphate.

To determine the formula of any brand, as guaranteed, multiply Total Nitrogen guaranteed by 1.2158 to obtain Ammonia and then use this figure and the guarantees for Available Phosphoric Acid and Total Potash. For example, Nitrogen guarantee equals .82% (.82 x-1.2158=1%). Ammonia equals 1% Available Phosphoric Acid 8% Potash 1%. Formula therefore is 1-8-1.

Complete Fertilizers, Table 1, furnishing Nitrogen, Phosphoric Acid and Potash.

Nitrogen and Phosphoric Acid Fertilizers, Table II, including Dissolved Bones and other like products.

Ground Bone Fertilizers, Table III, furnishing Nitrogen and Phosphoric Acid.

Acidulated Phosphoric Fertilizers, Table IV, furnishing Phosphoric Acid.

Rock and Potash Fertilizers, Table V, furnishing Phosphoric Acid and Potash.

Miscellaneous Fertilizers, Table VI, including Nitrate of Soda, Sulphate of Ammonia, Tankage, Kainit and Muriate of Potash.

TABLE I.—COMPLETE
Furnishing Nitrogen,

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE ALLENTOWN MANUFACTURING CO., ALLENTOWN, PA.	
1193	Truck & Garden Phosphate,	The Allentown Manufacturing Co., Allentown.
1192	Victory Phosphate,	The Allentown Manufacturing Co., Allentown.
	THE ALPHANO HUMUS CO., NEW YORK, N. Y.	
1183	Prepared Alphano Humus,	Fox & Fox, Altoona,
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
1227	Allen's Popular Phosphate,	George W. Amey, Richlandtown,
1228	Allen's Special for Wheat & Grass,	George W. Amey, Richlandtown,
675	Bowker's Corn and Wheat Guano,	J. N. Cook, Lake Ariel,
376	Bowker's Potash Fertilizer,	D. C. Cassel, Lebanon,
457	Bowker's Potash Fertilizer,	Charles Steen, Pottstown,
586	Bowker's Staple Phosphate,	Mars Milling & Feed Co., Mars,
456	Bowker's Staple Phosphate,	Charles Steen, Pottstown,
674	Bowker's Sure Crop Phosphate Revised,	J. N. Cook, Lake Ariel,
906	Bowker's Sure Crop Phosphate Revised,	Alvin Lutz, Mahanoy,
455	Bowker's Sure Crop Phosphate Revised,	Charles Steen, Pottstown,
243	Bradley's B. D. Guano,	J. S. Cole, Millville,
977	Bradley's B. D. Guano,	Fish & Meachan, Coudersport,
282	Bradley's B. D. Guano,	W. H. Swartz, Madisonville,
940	Bradley's King Philip Revised,	W. J. Bone, S. Cannan,
1049	Bradley's New Method Fertilizer,	Geo. Ifft & Son, Evans City,
281	Bradley's New Method Fertilizer,	W. H. Swartz, Madisonville,
979	Bradley's Niagara Phosphate,	Fish & Meachan, Coudersport,
1058	Bradley's Niagara Phosphate,	A. Krause & Son, Marwood,
1231	Bradley's Niagara Phosphate,	Eli Reimer, Flicksville,
941	Bradley's Unicorn,	J. D. Box, Gravity,
242	Bradley's Unicorn,	J. S. Cole, Millville,
1079	Bradley's Unicorn,	A. E. Woodruff & Son, Wysox,
205	Canton Chemical Bakers Special Wheat, Corn & Grass Mixture.	H. F. Gump & Son, Everett,
423	Canton Chemical Bakers Special Wheat,	A. H. Keeley & Son, Schwencksville,
485	Canton Chemical Bakers Special Wheat, Corn & Grass Mixture.	King Brothers, Uniontown,
1173	Canton Chemical Bakers Special Wheat, Corn & Grass Mixture.	H. L. Orr, Tyrone,
484	Canton Chemical Bakers Standard High Grade Guano.	King Brothers, Uniontown,
422	Canton Chemical Eagle Phosphate,	A. H. Keeley & Son, Schwencksville,
1054	Canton Chemical Harrow Brand Crop Grower.	Wm. Gates Estate, Kittanning,
636	Canton Chemical Potato and Vegetable Manure.	William B. Barnitz, Carlisle,
421	Canton Chemical Potato and Vegetable Manure.	A. H. Keeley & Son, Schwencksville,
1167	Canton Chemical Potato and Vegetable Manure.	A. F. Stutzman & Son, Johnstown,
1174	Canton Chemical Resurgam Guano,	H. L. Orr, Tyrone,
107	Complete Manure,	H. P. Passmore & Brother, Oxford,
208	Josiah Cope's Special Phosphate,	John S. Hersberger, Everett,
203	Josiah Cope's Spring and Fall Mixture,	John S. Hershberger, Everett,
404	Josiah Cope's Try Me.	O. W. Shortlidge, Lincoln, University,
405	Josiah Cope's Spring and Fall Mixture,	O. W. Shortlidge, Lincoln University,
899	Josiah Cope's Wheat & Grass Special,	Jones Evanson, Christiana,
1029	Crescent Complete Manure,	Walter Beek, Warriors Mark,
323	Crescent Complete Manure,	Centre County Farmers Cooperative Association, State College,
772	Crokers Complete Manure,	Wm. Erb, New Berlinville,

FERTILIZERS.
Phosphoric Acid and Potash.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
5.22	3.84	3.30	7.40	8.00	5.60	5.00	1.80	3.00	*1.69	2.00	1.69	------	50 00	1193
6.69	1.99	1.65	10.49	10.00	8.07	6.00	2.42	4.00	2.05	2.00	2.05	------	40 00	1192
†14.14	†2.08	------	†1.02	------	†0.89	------	†0.13	------	†0.46	------	0.30	0.16	†35 00	1188
2.92	0.95	0.82	9.81	9.00	9.06	8.00	0.75	1.00	2.24	2.00	2.24	------	40 80	1227
5.05	1.18	0.82	8.36	8.00	7.24	7.00	1.12	1.00	1.66	1.00	1.66	------	36 00	1228
2.57	2.15	1.65	10.03	9.00	8.75	8.00	1.28	1.00	4.04	4.00	------	4.04	18 00	675
4.56	0.99	0.82	10.31	10.00	9.69	9.00	0.62	1.00	3.07	3.00	3.07	------	41 75	376
8.49	1.30	0.82	11.28	10.00	9.78	9.00	1.50	1.00	*2.02	3.00	2.02	------	40 00	457
7.67	0.99	0.82	10.20	9.00	8.46	8.00	1.74	1.00	1.02	1.00	1.02	------	37 00	586
8.24	1.13	0.82	9.51	9.00	8.29	8.00	1.22	1.00	1.01	1.00	1.01	------	34 00	476
2.29	1.03	0.82	10.12	9.00	8.24	8.00	1.88	1.00	2.02	2.00	0.90	1.12	36 00	674
3.78	0.95	0.82	9.74	9.00	8.40	8.00	1.34	1.00	4.20	2.00	4.20	------	28 00	806
3.82	1.08	0.82	10.72	9.00	9.42	8.00	1.30	1.00	1.93	2.00	1.93	------	26 00	455
3.58	1.00	0.82	8.80	9.00	8.04	8.00	0.76	1.00	4.28	4.00	4.28	------	37 60	213
2.75	0.84	0.82	10.30	9.00	8.66	8.00	1.64	1.00	4.38	4.00	1.40	2.98	36 59	977
8.10	1.00	0.82	10.16	9.00	9.36	8.00	0.80	1.00	4.58	4.00	4.58	------	45 00	282
2.51	1.19	0.82	10.84	10.00	8.89	9.00	1.05	1.00	2.22	2.00	0.90	1.32	36 50	940
2.97	0.90	0.82	10.24	9.00	8.88	8.00	1.36	1.00	2.28	2.00	1.20	1.08	40 00	1049
2.61	1.03	0.82	9.79	9.00	8.99	8.00	0.80	1.00	2.17	2.00	2.17	------	43 00	281
2.04	0.80	0.82	9.48	8.00	8.00	7.00	1.48	1.00	1.23	1.00	1.23	------	28 00	979
7.67	0.95	0.82	8.55	8.00	7.49	7.00	1.06	1.00	1.17	1.00	1.17	------	35 00	1078
2.72	0.89	0.82	8.74	8.00	7.66	7.00	1.08	1.00	1.14	1.00	1.14	------	28 00	1231
6.97	1.88	1.65	10.22	9.00	9.34	8.00	0.88	1.00	2.06	2.00	2.06	------	37 25	941
6.02	1.70	1.65	9.75	9.00	8.57	8.00	1.18	1.00	2.04	2.00	2.04	------	36 82	242
5.28	1.89	1.65	9.25	9.00	8.19	8.00	1.06	1.00	2.33	2.00	2.33	------	38 00	1079
8.52	1.00	0.82	10.29	10.00	9.39	9.00	0.90	1.00	1.95	2.00	1.95	------	36 50	205
6.16	1.68	0.82	10.44	10.00	9.66	9.00	0.78	1.00	2.45	2.00	2.45	------	40 00	423
4.80	1.16	0.82	9.95	10.00	*7.89	9.00	2.06	1.00	2.19	2.00	2.19	------	40 00	485
7.76	1.01	0.82	10.56	10.00	9.23	9.00	1.33	1.00	2.16	2.00	2.16	------	38 00	1173
4.47	1.88	1.65	10.68	9.00	9.18	8.00	1.50	1.00	3.02	3.00	2.10	0.92	47 00	484
2.40	0.75	0.82	9.42	8.00	8.30	7.00	1.12	1.00	1.30	1.00	1.30	------	35 00	422
7.32	0.95	0.82	9.98	9.00	8.88	8.00	1.10	1.00	1.39	1.00	1.39	------	36 00	1054
10.48	1.03	0.82	11.44	10.00	10.42	9.00	1.02	1.00	2.90	3.00	2.90	------	39 00	636
4.52	0.81	0.82	10.61	10.00	9.81	9.00	0.80	1.00	3.43	00	3.43	------	42 50	421
6.46	1.15	0.82	11.36	10.00	10.39	9.00	0.97	1.00	2.94	3.00	2.94	------	40 00	1167
4.91	1.07	0.82	9.70	9.00	8.03	8.00	1.67	1.00	4.38	4.00	4.38	------	44 00	1174
11.64	0.85	0.82	8.58	9.00	8.02	8.00	0.56	1.00	3.88	4.00	3.88	------	37 00	107
9.84	1.02	0.82	10.78	10.00	9.96	9.00	0.88	1.00	3.22	3.00	3.22	------	33 00	204
8.07	0.90	0.82	9.48	9.00	8.58	8.00	0.90	1.00	2.08	2.00	2.08	------	30 00	202
3.39	0.97	0.82	9.52	9.00	8.42	8.00	1.10	1.00	1.84	2.00	1.84	------	36 00	405
5.66	1.94	1.65	9.91	9.00	8.59	8.00	1.32	1.00	1.95	2.00	1.95	------	38 00	404
2.17	1.02	0.82	10.60	9.00	9.48	8.00	1.12	1.00	1.04	1.00	1.04	------	26 00	809
8.57	1.80	1.65	9.21	9.00	8.33	8.00	0.88	1.00	2.94	3.00	2.94	------	--------	1029
5.67	1.93	1.65	10.26	9.00	9.40	8.00	0.86	1.00	3.00	3.00	3.00	------	32 75	323
3.46	1.03	0.82	10.46	9.00	9.04	8.00	1.42	1.00	4.03	4.00	4.03	------	45 00	775

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*Deficient.
† Excluded from average.

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
1156	Croker's Complete Manure,	Gibson-Clark Co., Indiana,
608	Croker's Complete Manure,	D. N. Infield, Jackson Center,
560	Croker's General Crop Fertilizer,	M. H. Kelley, Smethport,
1157	Croker's Special Cabbage & Potato Manure.	Gibson-Clark Co., Indiana,
1100	Croker's Universal Grain Grower,	Farmers & Consumers Commercial Union, Troy.
773	Dead Shot Phosphate,	S. A. Fishburn, Penbrook,
496	Dead Shot Phosphate,	G. R. Lutz, Lutzville.
520	Detrick's Imperial Compound,	Czar Beerbower, Somerfield,
1052	Detrick's Imperial Compound,	H. F. Gelbach, Evans City,
471	Detrick's Kangaroo Komplete Kompound,	N. J. Miller, Elk Lick,
463	Detrick's Kangaroo Komplete Kompound,	Lewis Yoder, Elk Lick,
869	Detrick's Paragon Ammoniated Phosphate & Potash.	Jeff Altfather, Berlin,
1103	Detrick's Paragon Ammoniated Phosphate & Potash.	H. C. Berrits' Sons, Somerset,
507	Detrick's Royal Crop Grower,	Franklin Miller & Son, Greencastle,
360	Great Eastern General,	Torrence A. DeLong, Loganton,
533	Great Eastern General,	W. S. Grime, West Brownsville,
501	Great Eastern General,	J. R. Patterson & Brother, Hilliards,
749	Great Eastern Special Crop Fertilizer,	Estate of Geo. S. Snyder, Hatfield,
921	High Grade Crop Producer,	Frank C. Giles, Creamton,
278	High Grade Crop Producer,	E. N. Perry, Moscow,
646	Ludlam's Cecrops Harvest Queen,	Jacob Fleisher, Shermansdale,
644	Ludlam's Cecrops Palmetto,	Jacob Fleisher, Shermansdale,
216	Ludlam's CeCrops Palmetto,	S. J. Herline, Manns Choice,
867	Ludlam's No. 2 for Grain & Grass,	N. B. Shober, Garret,
920	Matchless Potash Manure,	Frank C. Giles, Creamton,
110	Matchless Potash Manure,	H. P. Passmore & Brothers, Oxford,
581	Michigan Carbon Works Homestead Fertilizer.	Biebel Brothers, Kearsage,
1148	Milsom's Erie King Fertilizer,	McCauley & McKay Co., Brockwayville,
75	Milsom's Wheat Oats Barley,	Saml. Heim, Pitman,
700	Moro Phillips C. & G. Complete Fertilizer,	N. D. Hunsicker, Snyders,
713	Moro Phillips C. & G. Complete Fertilizer,	C. A. Wamsley, Phoenixville,
791	Moro Phillips Pure Phuine,	N. D. Hunsickler, Snyders,
1129	Moro Philips Standard Guano,	S. T. Hilpot, Quakertown,
640	Nassau General Favorite,	William B. Barnitz, Carlisle,
126[illegible]	Nassau Practical Fertilizer,	Ira Bergtresser, Ottsville,
35[illegible]	Packers Union Universal Fertilizer 1920,	Daniel Ilgen, Logan Mills,
1069	Patapsco Coon Brand Guano,	Granville Mercantile Co., Granville Summit.
591	Patapsco Coon Brand Guano,	Oscar Van Buskirk, Bald Mount,
1230	Patapsco Grain & Grass Producer,	Ackermanville Milling Company Ackermanville.
612	The Pathfinder 1920,	John Greenleaf, Quarryville,
1024	Pollock's Bull's Eye Guano,	J. H. Scott, Petersburg,
472	Pollock's Corn and Oats Special,	Lloyd Bender, Listonburg,
522	Pollock's Corn, Wheat and Tomato Guano,	W. H. Frazer, Sand Patch,
21	Pollock's Crop Invigorator,	Geo. A. Dick, Dillsburg,
64	Potato & Truck Phosphate,	S. Ell Schwalm, Valley View,
1088	Read's Pioneer Fertilizer,	Billings & Keldar, New Albany,
459	Red Dragon Guano,	Jeff Altfather, Berlin,
871	Red Dragon Guano,	Jeff Altfather, Berlin,
325	Red Dragon Guano,	Centre County Farmers Cooperative Association, State College,
720	**Reese's Challenge Crop Grower,**	Irwin H. Levengood, Boyertown,
1191	Reese's Half and Half,	J. S. Weirbach Son, Pleasant Valley,
995	Reese's Half and Half,	J. H. Zortman, Hanover,
157	Reese's Potato Manure Revised,	J. R. Porter, Mackeyville,
158	Reese's Truck Special,	J. R. Porter, Mackeyville,
615	Royal Potash Mixture,	John Greenleaf, Quarryville,

FERTILIZERS—Continued.

	NITROGEN.		PHOSPHORIC ACID.						POTASH.					
			Total.		Available.		Insoluble.							
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
2.01	1.03	0.82	10.14	9.00	8.63	8.00	1.51	1.00	4.29	4.00	4.29	------	40 00	1156
3.54	1.00	0.82	10.93	9.00	9.03	8.00	1.99	1.00	4.00	4.00	1.50	2.50	-------	608
5.79	1.09	0.82	9.20	8.00	7.64	7.00	1.56	1.00	1.01	1.00	1.01	------	38 50	560
3.07	2.69	2.47	9.92	9.00	8.68	8.00	1.24	1.00	4.75	4.00	4.10	0.65	50 00	1157
5.62	1.03	0.82	10.06	9.00	8.82	8.00	1.24	1.00	1.92	2.00	1.92	------	34 00	1100
4.83	0.89	0.82	9.35	8.00	8.07	7.00	1.28	1.00	1.59	1.00	1.59	------	31 00	773
6.83	1.00	6.82	8.84	8.00	7.42	7.00	1.42	1.00	1.16	1.00	1.16	------	26 00	495
5.17	1.10	0.82	10.70	9.00	8.76	8.00	1.94	1.00	*1.70	2.00	1.70	------	38 25	520
2.72	0.95	0.82	10.32	9.00	8.58	8.00	1.74	1.00	2.45	2.00	0.90	1.55	38 00	1052
6.39	2.00	1.65	10.15	9.00	9.33	8.00	0.82	1.00	3.03	3.00	3.03	------	51 00	471
8.88	1.56	1.65	10.00	9.00	9.14	8.00	0.86	1.00	3.05	3.00	2.00	1.05	41 50	463
5.12	0.80	0.82	9.08	8.00	7.84	7.00	1.24	1.00	0.86	1.00	0.86	------	31 00	869
4.87	0.87	0.82	9.49	8.00	8.43	7.00	1.06	1.00	0.90	1.00	0.90	------	30 00	1103
8.46	1.71	1.65	10.50	9.00	9.68	8.00	0.82	1.00	*1.48	2.00	1.48	------	25 00	507
4.44	1.01	0.82	10.58	9.00	9.12	8.00	1.46	1.00	4.02	4.00	4.02	------	42 88	360
3.96	1.13	0.82	10.56	9.00	9.12	8.00	1.44	1.00	4.28	4.00	4.28	------	40 00	532
2.80	1.13	0.82	10.70	9.00	9.20	8.00	1.50	1.00	4.33	4.00	4.33	------	45 00	591
4.61	0.95	0.82	10.59	11.00	*9.09	10.00	1.50	1.00	1.05	1.00	1.05	------	39 50	749
3.26	1.70	1.65	9.87	9.00	8.83	8.00	1.04	1.00	4.05	4.00	4.05	------	51 00	921
4.29	1.92	1.65	10.10	9.00	8.90	8.00	1.20	1.00	4.02	4.00	1.30	2.72	48 00	278
6.34	1.03	0.82	10.62	9.00	9.52	8.00	1.10	1.00	1.88	2.00	1.88	------	-------	646
7.83	1.05	0.82	9.82	9.00	8.68	8.00	1.14	1.00	1.00	1.00	1.00	------	-------	644
7.61	0.90	0.82	9.50	9.00	8.18	8.00	1.32	1.00	1.00	1.00	1.00	------	-------	210
4.87	0.96	0.82	8.37	8.00	7.59	7.00	0.78	1.00	1.06	1.00	1.06	------	32 00	867
4.17	1.81	1.65	10.41	9.00	9.39	8.00	1.02	1.00	2.16	2.00	2.16	------	48 00	920
3.85	1.88	1.65	8.59	9.00	*7.31	8.00	1.28	1.00	2.00	2.00	2.00	------	37 00	110
6.39	2.05	1.65 2.47	10.87	10.00 13.00	9.91	9.00 11.00	0.96	1.00 2.00	1.20	1.00 2.00	------	1.20	-------	581
3.91	1.01	0.82	9.26	8.00	7.55	7.00	1.71	1.00	1.02	1.00	1.02	------	28 06	1148
3.49	0.89	0.82	9.06	9.00	7.82	8.00	1.24	1.00	2.29	2.00	2.29	------	35 85	75
4.80	1.01	0.82	9.72	9.00	8.98	8.00	0.74	1.00	2.31	2.00	2.31	------	34 00	790
3.85	0.90	0.82	9.54	9.00	8.30	8.00	1.24	1.00	2.17	2.00	2.17	------	36 00	713
5.07	1.87	1.65	9.96	9.00	8.72	8.00	1.24	1.00	3.14	2.00	3.14	------	-------	791
1.89	0.94	0.82	8.36	9.00	*7.22	8.00	1.14	1.00	4.66	4.00	4.66	------	40 00	1229
8.22	0.99	0.82	10.42	9.00	9.14	8.00	1.28	1.00	*3.14	4.00	3.14	------	39 00	640
6.16	1.07	0.82	8.76	8.00	7.56	7.00	1.20	1.00	1.13	1.00	1.13	------	35 00	1200
4.74	1.03	0.82	10.29	9.00	9.18	8.00	1.02	1.00	1.56	1.00	1.56	------	37.08	352
3.58	1.00	0.82	11.20	10.00	9.86	9.00	1.34	1.00	2.19	2.00	1.50	0.69	30 00	1096
2.09	1.02	0.82	12.65	10.00	10.25	9.00	1.80	1.00	2.00	2.00	0.90	1.10	36 50	301
3.70	0.97	0.82	9.70	9.00	8.92	8.00	0.78	1.00	3.98	4.00	3.98	------	37 00	1230
6.46	1.09	0.82	11.36	10.00	10.28	9.00	1.08	1.00	*2.49	3.00	2.49	------	33 50	612
6.00	1.72	1.65	9.94	9.00	8.94	8.00	1.00	1.00	2.27	2.00	2.27	------	35 00	1024
2.76	0.85	0.82	8.84	8.00	8.14	7.00	0.70	1.00	0.92	1.00	0.92	------	-------	472
4.22	0.94	0.82	8.74	9.00	7.86	8.00	0.88	1.00	1.12	1.00	1.12	------	26 90	522
8.07	0.87	0.82	9.05	9.00	8.39	8.00	0.66	1.00	4.17	4.00	4.17	------	-------	21
6.40	3.40	3.29	8.79	9.00	8.23	8.00	0.56	1.00	6.55	6.00	6.55	------	-------	64
3.21	0.91	0.82	10.07	9.00	8.95	8.00	1.12	1.00	2.31	2.00	2.31	------	36 00	1088
7.74	1.82	1.65	15.77	13.00	14.15	12.00	1.62	1.00	2.14	2.00	2.14	------	42 50	459
10.09	1.58	1.65	13.33	13.00	11.83	12.00	1.50	1.00	2.04	2.00	2.04	------	42 50	871
4.79	1.94	1.65	13.86	13.00	13.30	12.00	0.56	1.00	2.29	2.00	2.29	------	33 15	325
7.76	0.86	0.82	9.85	9.00	8.63	8.00	1.22	1.00	*1.65	2.00	1.65	------	-------	770
6.30	1.02	0.82	8.55	8.00	7.47	7.00	1.08	1.00	1.28	1.00	1.28	------	30 00	1191
3.43	0.94	0.82	9.08	8.00	8.00	7.00	1.08	1.00	1.02	1.00	1.02	------	31 35	995
9.81	1.57	1.65	10.60	9.00	9.60	8.00	1.00	1.00	*2.47	3.00	2.47	------	38 50	157
9.75	*2.23	2.47	9.81	9.00	9.17	8.00	0.64	1.00	*3.69	4.00	3.69	------	45 30	156
3.14	0.95	0.82	10.54	9.00	9.42	8.00	1.12	1.00	*1.80	2.00	1.80	------	30 00	613

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*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From
638	Sharpless & Carpenter's No. 2 for Grain and Grass.	William B. Barnitz, Carlisle,
71	Sharpless & Carpenter's Royal Spring Mixture.	W. E. Knorr, Klingerstown,
1219	Sharpless & Carpenter's Royal Spring Mixture.	Jacob A. Roberts, Slatington,
1123	Susquehanna Choice Mixture,	Willis Koch, Pottsgrove,
434	J. E. Tygert's Gold Edge Potato Guano Revised.	O. M. Lumis, Uwchland,
437	J. E. Tygert's Golden Harvest Phosphate,	O. M. Lumis, Uwchland,
1168	J. E. Tygert's Popular Phosphate,	A. F. Stutzman & Son, Johnstown,
761	J. E. Tygert's Potato Fertilizer,	E. Moyer, Fredericksburg,
744	Tygert-Allen's Standard Brand Phosphate.	Harvey Detwiler, Chester Springs,
743	Tygert-Allen's Star Brand Phosphate Revised.	Harvey Detwiler, Chester Springs,
121	Whann's Chester Valley Tomato and Potato Special,	E. H. Keen & Son, Parkesburg,
285	Wheeler's Potato Manure 1920,	A. J. Jones, Moscow,
254	Wheeler's Royal Wheat Grower,	Daniel Ilgen, Logan Mills,
561	Williams & Clark's Prolific Fertilizer,	Gallup's Hardware, Port Allegany,
34	Williams & Clark's Prolific Fertilizer,	Ed. Ream, Annville,
194	Williams & Clark's Royal Phosphate Revised.	Aaron Zimmerman, Lehighton,
22	Woolridge's Ammoniated Phosphate,	Robert Wentz, Wellsville,
1222	Wooldridge's Clover Blossom,	A. Z. Shelly, Emaus,
16	Wooldridge's Farmers Favorite Cereal Compound Revised.	Robert Wentz, Wellsville,
1026	Wooldridge's Special Potato & Tobacco Fertilizer Revised.	W. S. Baker, Alexandria,
24	Wooldridge's Special Potato & Tobacco Fertilizer Revised.	Robert Wentz, Wellsville,
1025	Wooldridge's Triangle Brand,	W. S. Baker, Alexandria,
642	Wooldridge's Triangle Brand,	Geo. S. Briner, Carlisle,
	THE AMERICAN AGRICULTURAL CHEMICAL CO. OF NEW JERSEY, LISTERS AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.	
726	Lister's Ammoniated Dissolved Super-Phosphate Revised.	W. E. Ervin, Somerton,
563	Lister's Big Crop Grower,	Shippensburg Elevator Co., Shippensburg.
722	Lister's Corn and Potato Fertilizer,	Wm. H. Fritz, Berwyn,
151	Lister's Corn and Potato Fertilizer,	Kencht Milling Co., Mill Hall,
280	Lister's Corn and Potato Fertilizer,	R. H. McLean, Moscow,
1144	Lister's Corn and Potato Fertilizer,	T. J. Murphy, Clearfield,
1035	Lister's G. Brand,	P. E. Bartholemue, Mercer,
1121	Lister's G. Brand,	McHenry & Masteller, Bloomsburg,
907	Lister's G. Brand,	H. E. Mullin, Christiana,
489	Lister's Golden Sheaf,	B. F. Dively, Claysburg,
1125	Lister's Golden Sheaf.	B. Savidge, Turbotville,
1119	Lister's Harvest Queen Phosphate Revised,	McHenry & Masteller, Bloomsburg,
721	Lister's Special Crop Producer,	Wm. H. Fritz, Berwyn,
150	Lister's Special Crop Producer,	Kencht Milling Co., Mill Hall,
900	Lister's Special Crop Producer,	Millersville Supply Co., Millersville,
1145	Lister's Special Vegetable Manure,	T. J. Murphy, Clearfield,
725	Lister's Standard Pure Super-Phosphate of Lime.	W. E. Ervin, Somerton,
209	Lister's U. S. Super-Phosphate,	J. B. Findley, Schellsburg,
1124	Lister's U. S. Super-Phosphate,	B. Savidge, Turbotville,
1036	Lister's Valley Brand Fertilizer Revised,	P. E. Bartholemue, Mercer,
	AMERICAN FERTILIZING COMPANY, BALTIMORE, MD.	
1254	American Ammoniated Crop Compound,	John M. Crossen, Montrose,
1253	American Best Potato Formula,	John M. Crossen, Montrose,

FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
7.87	1.01	0.82	8.80	8.00	7.54	7.00	1.26	1.00	1.02	1.00	1.02	------	31 50	638
3.97	0.88	0.82	10.05	9.00	8.87	8.00	1.18	1.00	2.23	2.00	2.23	------	-------	71
2.89	1.00	0.82	10.52	9.00	9.18	8.00	1.34	1.00	2.17	2.00	2.17	------	33 50	1219
7.77	0.95	0.82	9.34	9.00	8.60	8.00	0.74	1.00	1.81	2.00	1.81	------	33 00	1123
6.38	1.75	1.05	9.79	9.00	8.55	8.00	1.24	1.00	*3.74	4.00	3.74	------	45 00	434
2.86	0.98	0.82	9.75	9.00	8.55	8.00	1.20	1.00	1.81	2.00	1.81	------	33 00	437
6.72	1.07	0.82	7.91	8.00	*6.38	7.00	1.53	1.00	0.89	1.00	0.89	------	35 00	1158
9.00	*3.03	3.29	9.28	9.00	8.28	8.00	1.00	1.00	4.17	4.00	4.17	------	58 00	761
6.07	1.85	1.65	9.82	9.00	8.58	8.00	1.24	1.00	3.21	2.00	3.21	------	41 00	744
6.69	1.94	1.65	9.92	9.00	8.70	8.00	1.22	1.00	3.19	3.00	3.19	------	44 00	743
7.29	0.91	0.82	9.73	9.00	8.47	8.00	1.26	1.00	*3.76	4.00	3.76	------	34 50	121
3.76	1.70	1.65	10.58	9.00	9.00	8.00	1.58	1.00	3.01	3.00	3.01	------	45 00	285
4.39	0.94	0.82	10.30	9.00	9.29	8.06	1.10	1.00	2.01	2.00	2.01	------	39 58	354
3.52	1.03	0.82	9.40	8.00	7.76	7.00	1.64	1.00	1.03	1.00	1.03	------	40 00	561
3.12	0.95	0.82	8.95	8.00	7.81	7.00	1.14	1.00	1.38	1.00	1.38	------	-------	34
4.30	0.96	0.82	10.37	9.00	8.27	8.00	2.10	1.00	1.89	2.00	0.50	1.39	-------	194
7.78	0.90	0.82	9.46	9.00	8.28	8.00	1.18	1.00	1.00	1.00	1.00	------	-------	22
3.02	0.89	0.82	10.60	9.00	9.15	8.00	1.45	1.00	1.87	2.00	1.87	------	39 00	1222
6.80	1.00	0.82	8.28	8.00	7.34	7.00	0.94	1.00	0.92	1.00	0.92	------	-------	16
10.52	1.74	1.65	11.04	11.00	10.12	10.00	0.92	1.00	2.72	2.00	2.72	------	42 00	1026
10.89	1.88	1.65	11.16	11.00	10.46	10.00	0.70	1.00	2.50	2.00	2.50	------	-------	24
7.93	0.94	0.82	9.58	9.00	8.68	8.00	0.90	1.00	4.02	4.00	4.02	------	42 00	1025
8.37	1.03	0.82	9.68	9.00	8.28	8.00	1.40	1.00	4.03	4.00	4.03	------	39 00	642
5.82	1.69	1.65	11.07	9.00	8.75	8.00	2.32	1.00	3.35	3.00	3.35	------	42 00	726
8.52	1.75	1.65	10.00	9.00	8.96	8.00	1.10	1.00	4.49	4.00	4.49	------	46 00	593
5.33	2.30	1.65	9.86	9.00	8.62	8.00	1.24	1.00	*2.79	3.00	2.79	------	47 00	722
5.83	1.70	1.65	10.22	9.00	9.30	8.00	0.92	1.00	*2.67	3.00	2.67	------	42 50	151
4.38	1.97	1.65	12.26	9.00	9.06	8.00	3.20	1.00	3.11	3.00	3.11	------	45 00	280
8.04	1.56	1.65	9.57	9.00	*7.29	8.00	2.28	1.00	3.01	3.00	3.01	------	60 00	1144
8.72	0.95	0.82	9.65	9.00	8.23	8.00	1.32	1.00	4.84	4.00	4.84	------	40 00	1035
5.85	0.96	0.82	9.84	9.00	8.40	8.00	1.44	1.00	4.05	4.00	4.05	------	38 00	1121
2.24	0.90	0.82	9.72	9.00	8.90	8.00	0.82	1.00	4.02	4.00	4.02	------	34 00	907
7.76	1.01	0.82	9.69	9.00	8.29	8.00	1.40	1.00	1.04	1.00	1.04	------	-------	489
7.22	0.95	0.82	10.09	9.00	9.03	8.00	1.06	1.00	0.94	1.00	0.94	------	28 75	1125
7.15	1.04	0.82	10.87	10.00	9.01	9.00	1.86	1.00	3.12	3.00	3.12	------	36 00	1119
3.39	1.29	0.82	8.79	8.00	7.49	7.00	1.20	1.00	1.12	1.00	1.12	------	35 00	721
8.36	0.82	0.82	8.53	8.00	7.67	7.00	0.86	1.00	1.10	1.00	1.10	------	31 50	150
2.42	1.09	0.82	9.29	8.00	7.72	7.00	1.48	1.00	1.08	1.00	1.08	------	32 00	900
8.76	3.28	3.29	10.74	9.00	8.00	8.00	2.74	1.00	3.25	3.00	1.20	2.05	70 00	1145
9.04	2.80	2.47	10.84	10.00	*8.12	9.00	2.72	1.00	2.29	2.00	2.29	------	45 00	725
9.72	1.98	1.65	10.06	9.00	9.14	8.00	0.92	1.00	*1.48	2.00	1.48	------	23 50	209
4.96	2.00	1.65	9.88	9.00	8.86	8.00	1.02	1.00	2.06	2.00	2.06	------	25 75	1124
7.59	1.04	0.82	12.06	11.00	10.42	10.00	1.64	1.00	0.95	1.00	0.95	------	38 00	1036
3.40	1.00	0.82	9.93	9.00	8.59	8.00	1.34	1.00	2.12	2.00	2.12	------	34 00	1254
4.48	3.28	3.29	9.76	9.00	8.12	8.00	1.64	1.00	6.05	6.00	6.05	------	60 00	1253

*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
1255	American Eagle Crop Grower,	E. L. Jones, Fairdale,
443	American Fish and Potash Compound,	Barnett Brothers, Oxford,
895	American Fish and Potash Compound,	Jones Evanson, Christiana,
904	American Fish and Potash Compound,	J. H. Summy, Landesville,
896	American Grain & Grass Special,	Jones Evanson, Christiana,
1256	American Reliable Guano,	E. L. Jones, Fairdale,
897	American Special Compound Guano,	Jones Evanson, Christiana,
	ARMOUR FERTILIZER WORKS, BALTIMORE, MD.	
41	Armour's Big Crop Fertilizer 2-8-5,	M. L. Bachman, Lebanon,
555	Armour's Big Crop Fertilizer 2-8-5,	Washington Milling Co., Washington,
170	Armour's Big Crop Fertilizer 3-8-4,	Ellis W. Hyman, Jersey Shore,
364	Armour's Crop Grower,	Wm. M. Brosha, Antes Fort,
771	Armour's Crop Grower,	D. H. Latshaw, Bechtelsville,
167	Armour's Grain Grower,	Ellis W. Hyman, Jersey Shore,
1153	Armour's Grain Grower,	Reynoldsville Hardware Co., Reynoldsville.
909	Armour's Grain Grower,	Jos. C. Walker & Sons Co., Gap,
739	Armour's Royal Ammoniated,	F. E. Bailey, Northbrook,
1066	Armour's Royal Ammoniated,	Geo. E. McQuiston, Grove City,
294	Armour's Royal Ammoniated,	Summit Lumber Co., Clark Summit,
430	Armour's Wheat, Corn and Oats Special,	James W. Butz, Palm,
549	Armour's Wheat, Corn and Oats Special,	J. C. Fulton & Co., Burgettstown,
1200	Armour's Wheat, Corn and Oats Special,	Nazareth Coal & Lumber Co., Nazareth,
1152	Armour's Wheat, Corn and Oats Special,	Reynoldsville Hardware Co., Reynoldsville.
1055	Armour's Wheat, Corn and Oats Special,	Smith & Logan, Cabet,
787	Tuscarora Ammoniated Phosphate,	W. A. Buck, Palmerton,
398	Tuscarora Ammoniated Phosphate,	Great Valley Mills Co., Exton,
142	Tuscarora Fish and Potash Mixture,	Great Valley Mills Co., Exton,
1218	Tuscarora Fish and Potash Mixture,	Andrew Snyder, Slatington,
786	Tuscarora Fruit & Root Crop Special,	W. A. Buck, Palmerton,
1217	Tuscarora Fruit & Root Crop Special,	Andrew Snyder, Slatington,
427	Tuscarora Standard Phosphate,	A. F. Leidy, Delphi,
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
690	Baugh's Animal Base and Potash Compound for All Crops.	Geo. DeFrain, Collomsville,
544	Baugh's Animal Base and Potash Compound for All Crops.	A. C. McClure, Burgettstown,
1143	Baugh's Animal Base and Potash Compound for All Crops.	Routch & Swartzle, Clearfield,
406	Baugh's Animal Base and Potash Compound for All Crops.	O. W. Shortlidge, Lincoln Universtity,
28	Baugh's Complete Animal Base Fertilizer,	Cook Grain, Feed & Supply Co., Dillsburg,
691	Baugh's Complete Animal Base Fertilizer,	Geo. DeFrain, Collomsville,
30	Baugh's Excelsior Guano,	Cook Grain, Feed & Supply Co., Dillsburg,
766	Baugh's Excelsior Guano,	A. A. Geiger, Joana,
407	Baugh's Excelsior Guano,	O. W. Shortlidge, Lincoln Universtity,
836	Baugh's Fish Mixture,	C. W. Kleckner, Ringtown,
877	Baugh's General Crop Grower,	N. H. Blough, Davidsville,
661	Baugh's General Crop Grower,	B. E. & J. F. Cokley, Scranton,
1159	Baugh's General Crop Grower,	Edwards Hardware Co., Ebensburg,
628	Baugh's General Crop Grower,	E. B. Fritz & Sons Co., Quarryville,
653	Baugh's General Crop Grower,	Manchester Grange Co-Operative Association, Emigsville,
414	Baugh's Grand Rapid Guano,	Edw. W. Brinton & Son, West Chester,
1160	Baugh's Grand Rapid Guano,	Edwards Hardware Co., Ebensburg,
74	Baugh's Grand Rapid Guano,	W. W. Haas, Pitman,
100	Baugh's Special Potato Manure,	Fisher & Nolan, Malvern,
1202	Baugh's Special Potato Manure,	W. O. Minnich, Cherryville,
1138	Baugh's Special Potato Manure,	Routch & Swartzle, Clearfield,

FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
5.66	1.69	1.65	10.44	9.00	8.93	8.00	1.51	1.00	2.00	2.00	2.00	------	38 00	1255
1.70	1.73	1.65	10.72	9.00	8.62	8.00	2.10	1.00	3.10	3.00	3.10	------	39 00	443
5.87	1.80	1.65	10.54	9.00	8.40	8.00	2.14	1.00	3.50	3.00	3.50	------	36 00	895
4.46	2.00	1.65	11.20	9.00	8.94	8.00	2.26	1.00	2.92	3.00	2.92	------	42 00	904
3.72	0.76	0.41	9.25	8.00	8.09	7.00	1.16	1.00	1.25	1.00	1.25	------	24 00	896
4.59	1.01	0.82	10.10	9.00	8.71	8.00	1.39	1.00	1.13	1.00	1.13	------	34 00	1256
3.90	0.71	0.41	8.86	8.00	7.48	7.00	1.38	1.00	3.05	3.00	3.05	------	28 00	897
3.59	1.83	1.65	8.80	8.50	8.36	8.00	0.44	0.50	5.57	5.00	5.57	------	45 75	41
3.05	1.79	1.65	8.70	8.50	8.14	8.00	0.56	0.50	5.78	5.00	5.78	------	50 00	555
4.00	2.80	2.47	9.11	8.50	8.41	8.00	0.70	0.50	3.03	3.00	0.70	2.33	------	170
3.97	1.04	0.82	9.12	8.50	8.46	8.00	0.66	0.50	2.09	2.00	2.09	------	34 00	364
5.11	1.03	0.82	9.12	8.50	8.58	8.00	0.54	0.50	2.20	2.00	2.20	------	35 90	771
3.87	1.90	1.65	8.46	8.50	7.86	8.00	0.60	0.50	2.24	2.00	2.24	------	36 10	167
3.94	1.82	1.65	8.86	8.50	8.11	8.00	0.75	0.50	2.48	2.00	2.48	------	44 00	1153
3.36	1.73	1.65	9.28	8.50	8.40	8.00	0.88	0.50	2.67	2.00	1.70	0.97	38 00	909
3.72	1.63	0.82	9.36	8.50	8.54	8.00	0.82	0.50	4.97	4.00	4.97	------	48 00	739
3.49	1.29	0.82	9.52	8.50	8.58	8.00	0.94	0.50	4.60	4.00	4.60	------	45 00	1066
3.33	1.01	0.82	10.44	8.50	9.54	8.00	0.90	0.50	4.17	4.00	4.17	------	38 00	294
3.11	1.00	0.82	7.40	7.50	*6.60	7.00	0.80	0.50	1.26	1.00	1.26	------	30 00	430
2.76	0.99	0.82	8.26	7.50	7.22	7.00	1.04	0.50	1.31	1.00	1.31	------	35 00	549
3.06	1.07	0.82	8.20	7.50	7.33	7.00	0.87	0.50	1.57	1.00	1.57	------	38 00	1209
2.14	1.10	0.82	7.71	7.50	7.24	7.00	0.47	0.50	1.16	1.00	1.16	------	35 00	1152
4.54	1.63	0.82	9.22	7.50	7.36	7.00	1.86	0.50	1.18	1.00	1.18	------	38 50	1055
3.92	1.08	0.82	8.44	7.50	7.58	7.00	0.86	0.50	1.40	1.00	1.40	------	32 00	787
3.43	1.24	0.82	8.61	7.50	7.69	7.00	0.92	0.50	1.56	1.00	1.56	------	31 50	398
3.56	1.70	1.65	9.00	8.50	8.02	8.00	0.98	0.50	3.12	3.00	3.12	------	41 75	142
3.62	2.00	1.65	9.13	8.50	8.22	8.00	0.91	0.50	3.25	3.00	3.25	------	39 75	1218
4.37	4.67	1.65	9.56	8.50	8.92	8.00	0.74	0.50	5.18	5.00	5.18	------	55 00	786
3.73	1.90	1.65	9.20	8.50	8.72	8.00	0.48	0.50	5.00	5.00	5.00	------	45 00	1217
5.05	1.96	1.65	8.72	8.50	7.90	8.00	0.82	0.50	2.25	2.00	2.25	------	41 00	427
4.39	1.82	1.65	10.40	------	8.92	8.00	1.48	------	2.19	2.00	2.19	------	40 00	690
3.72	1.94	1.65	10.43	------	8.65	8.00	1.78	------	2.08	2.00	2.08	------	40 00	544
4.51	1.88	1.65	9.77	------	8.23	8.00	1.54	------	2.14	2.00	2.14	------	45 00	1143
5.19	1.97	1.65	10.48	------	8.88	8.00	1.60	------	2.00	2.00	2.00	------	38 00	406
7.29	1.84	1.65	10.30	------	9.00	8.00	1.30	------	*4.79	5.00	4.79	------	43 35	28
5.14	1.94	1.65	10.57	------	9.05	8.00	1.52	------	5.28	5.00	5.28	------	48 00	691
6.68	1.10	0.82	9.80	------	8.86	8.00	0.94	------	3.90	4.00	3.90	------	36 50	30
8.14	1.04	0.82	9.96	8.00	9.12	8.00	0.84	------	*3.79	4.00	3.79	------	33 00	766
4.91	1.03	0.82	9.50	------	8.38	8.00	1.12	------	4.08	4.00	4.08	------	39 00	467
5.62	1.82	1.65	9.76	8.00	8.90	8.00	0.86	------	2.26	2.00	2.26	------	37 00	836
7.36	1.01	0.82	10.53	------	9.35	8.00	1.18	------	0.88	1.00	0.88	------	33 00	877
9.47	1.03	0.82	10.16	8.00	8.98	8.00	1.18	------	1.43	1.00	1.43	------	50 00	661
7.69	1.00	0.82	9.98	------	9.09	8.00	0.89	------	1.27	1.00	1.27	------	32 00	1159
5.57	1.10	0.82	9.95	8.00	9.01	8.00	0.94	------	1.24	1.00	1.24	------	28 00	628
8.02	1.05	0.82	9.86	------	8.98	8.00	0.88	------	1.22	1.00	1.22	------	27 75	653
5.65	2.76	2.47	10.57	9.00	9.21	8.00	1.36	1.00	3.55	3.00	3.55	------	49 00	414
3.75	2.68	2.47	10.08	------	8.74	8.00	1.34	------	3.73	3.00	3.73	------	55 00	1160
3.71	2.79	2.47	9.53	8.00	8.83	8.00	0.70	------	3.44	3.00	3.44	------	------	74
4.74	1.80	1.65	9.56	8.00	8.64	8.00	0.92	------	5.30	5.00	5.30	------	45 00	100
5.55	1.83	1.65	9.63	8.00	8.49	8.00	1.14	------	5.47	5.00	5.47	------	48 00	1202
2.37	1.76	1.65	10.04	------	8.39	8.00	1.65	------	5.23	5.00	5.23	------	53 00	1138

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*Deficient.

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
777	Baugh's Special Potato Manure,	H. A. Smith, Lehighton,
930	Baugh's Special Potato Manure,	F. R. Varcol, Waymarth,
442	Baugh's Special Vegetable Compound,	Bunting Brothers, Oxford,
29	Baugh's Special Vegetable Compound,	Cook Grain, Feed & Supply Co., Dillsburg.
1242	Baugh's Special Vegetable Compound,	J. Lyman Snyder, Eldredsville,
	THE BERG COMPANY, PHILADELPHIA, PA.	
719	Berg's Uneed Manure,	Great Valley Mills Co., Paoli,
	Bowker Fertilizer Company, Subsidiary of AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
925	Bowker's Corn & Grain Grower,	J. B. Dymond, Waymarth,
470	Bowker's Corn & Grain Grower,	Meyersdale Hardware Co., Meyersdale,
883	Bowker's Corn & Grain Grower,	Weaver & Berkey, Windber,
775	Bowker's Corn & Wheat Guano,	S. A. Fishburn, Penbrook,
657	Bowker's Corn & Wheat Guano,	A. E. Seamon, Factoryville,
774	Bowker's Potash Fertilizer,	S. A. Fishburn, Penbrook,
1030	Bowker's Potash Fertilizer,	E. F. Hills, Mercer,
1074	Bowker's Square Brand Farm & Garden Phosphate.	J. H. Brooks, Beaver Falls,
926	Bowker's Square Brand Farm & Garden Phosphate.	J. B. Dymond, Waymarth,
558	Bowker's Square Brand Farm & Garden, Phosphate.	C. S. Hunter Co., Washington,
469	Bowker's Staple Phosphate,	Meyersdale Hardware Co., Meyersdale,
1179	Bowker's Staple Phosphate,	Stultz Brothers, Hollidaysburg,
884	Bowker's Staple Phosphate,	Weaver & Berkey, Windber,
991	Bowker's Sure Crop Phosphate Revised,	G. N. Bamberger, Etters,
923	Bowker's Sure Crop Phosphate Revised,	J. B. Dymond, Waymarth,
559	Bowker's Sure Crop Phosphate Revised,	C. S. Hunter Co., Washington,
	THE BRYANT FERTILIZER COMPANY, ALEXANDRIA, VA.	
593	Bryant's Grain and Clover Grower,	S. Leroy Tuttle, Franklin,
596	Bryant's Winner 3-10-6,	S. Leroy Tuttle, Franklin,
	THE CENTRAL CHEMICAL COMPANY, HAGERSTOWN, MD.	
1008	Canners Special,	Mercersburg Elevator Company, Mercersburg,
448	Canners Special,	D. Earl Wagenseller, Supplee,
189	C. C. C. Corn & Truck Grower,	H. H. Gregory, Weatherly,
1043	Crown Jewel,	J. J. Kenedy & Sons, Zelienople,
337	Crown Jewel,	R. O. Rhine, East Waterford,
8	Crown Jewel,	E. W. Rupp, Shirmanstown,
201	Excelsior,	Francis Baker, Everett,
5	Excelsior,	E. W. Rupp, Shiremanstown,
446	Excelsior,	D. Earl Wagenseller, Supplee,
1208	Golden Sheaf,	Nazareth Coal & Lumber Co., Nazareth.
188	Grain and Grass Grower,	H. H. Gregory, Weatherly,
458	Grain and Grass Grower,	Lloyd Hay, Meyersdale,
1	Grain and Grass Grower,	E. W. Rupp, Shiremanstown,
447	Grain Special,	D. Earl Wagenseller, Supplee,
1116	Gro-All Fish and Potash Mixture,	N. G. Adams, Paxinos,
2	Gro-All Potato Special,	E. W. Rupp, Shiremanstown,
850	Gro-All Potato Special,	R. K. Yoder, Belleville,
473	Valley Mixture,	T. J. Jacobs, Somerfield,
488	Valley Mixture,	H. E. Mason, Osterburg,
849	Valley Mixture,	R. K. Yoder, Belleville,

FERTILIZERS—Continued.

	NITROGEN.		PHOSPHORIC ACID.						POTASH.					
			Total.		Available.		Insoluble.							
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
4.34	1.85	1.65	9.71	8.00	8.77	8.00	0.94	-------	5.48	5.00	5.48	------	47 00	777
3.00	1.81	1.65	9.66	8.00	8.82	8.00	0.84	-------	5.34	5.00	5.34	------	54 00	930
6.06	1.21	0.82	10.40	-------	9.46	9.00	0.94	-------	3.13	3.00	3.13	------	36 00	442
8.05	1.04	0.82	10.24	-------	9.30	9.00	0.94	-------	3.18	3.00	3.18	------	32 25	29
3.84	1.06	0.82	11.12	-------	10.15	9.00	0.97	-------	3.25	3.00	3.25	------	38 00	1242
2.86	2.84	1.65	18.04	11.00	9.12	8.00	8.92	3.00	1.07	1.00	0.80	0.27	38 00	719
3.19	0.89	0.82	9.56	9.00	8.82	8.00	0.74	1.00	4.03	4.00	4.03	------	50 00	925
6.11	1.10	0.82	9.92	9.00	9.10	8.00	0.82	1.00	*3.60	4.00	3.60	------	46 90	470
8.87	0.90	0.82	9.84	9.00	8.94	8.00	0.90	1.00	*3.66	4.00	3.66	------	36 00	883
9.29	1.70	1.65	10.20	9.00	9.12	8.00	1.08	1.00	*3.76	4.00	3.76	------	44 00	775
2.78	2.10	1.65	10.70	9.00	9.32	8.00	1.38	1.00	4.07	4.00	------	4.07	45 50	657
6.98	0.90	0.82	11.98	10.00	10.92	9.00	1.66	1.00	3.13	3.00	3.13	------	38 00	774
5.20	1.00	0.82	11.60	10.00	8.99	9.00	2.61	1.00	3.13	3.00	2.30	0.83	45 00	1030
2.74	1.90	1.65	10.42	9.00	8.92	8.00	1.50	1.00	2.24	2.00	2.24	------	-------	1074
2.68	1.97	1.65	10.15	9.00	8.99	8.00	1.16	1.00	2.03	2.00	2.03	------	50 00	926
4.54	1.90	1.65	10.11	9.00	8.55	8.00	1.56	1.00	2.13	2.00	2.13	------	60 00	558
6.82	1.05	0.82	9.60	9.00	8.72	8.00	0.88	1.00	1.25	1.00	1.25	------	38 90	469
5.45	1.05	0.82	9.74	9.00	8.40	8.00	1.34	1.00	1.01	1.00	1.01	------	40 00	1179
12.90	1.02	0.82	10.26	9.00	9.12	8.00	1.14	1.00	1.16	1.00	1.16	------	30 00	884
2.52	0.91	0.82	10.09	9.00	8.77	8.00	1.32	1.00	2.00	2.00	2.00	------	30 00	991
3.25	0.98	0.82	9.58	9.00	8.88	8.00	0.70	1.00	2.11	2.00	2.11	------	46 00	923
2.26	1.14	0.82	9.91	9.00	8.35	8.00	1.56	1.00	2.04	2.00	2.04	------	42 00	559
3.36	2.06	1.65	14.92	13.00	12.94	12.00	1.98	1.00	2.41	2.00	2.41	------	45 50	593
3.57	2.99	2.47	12.18	11.00	10.90	10.00	1.28	1.00	7.22	6.00	7.22	------	60 00	595
5.44	1.74	1.65	9.62	-------	8.96	8.00	0.66	-------	5.10	5.00	5.10	------	44 50	1008
5.73	1.56	1.65	10.50	-------	9.72	8.00	0.78	-------	4.87	5.00	4.87	------	41 00	448
4.77	3.25	3.28	10.05	-------	8.81	8.00	1.24	-------	4.04	3.00	4.04	------	50 75	189
2.96	1.00	0.82	10.38	-------	9.60	9.00	0.78	-------	2.86	3.00	2.86	------	37 00	1043
4.37	0.94	0.82	10.51	-------	9.31	9.00	1.20	------	3.50	3.00	3.50	------	39 00	337
6.92	0.86	0.82	10.14	-------	8.81	9.00	1.33	-------	3.00	3.00	3.00	------	37 00	6
6.29	1.75	1.63	10.22	-------	9.72	8.00	0.59	-------	*3.59	4.00	3.59	------	40 00	201
5.86	1.53	1.65	9.58	-------	8.88	8.00	0.70	-------	4.40	4.00	4.40	------	42 00	5
6.81	1.54	1.65	10.38	-------	9.54	8.00	0.84	-------	4.04	4.00	4.04	------	-------	446
4.86	0.92	0.82	10.19	-------	9.32	8.00	0.87	-------	1.15	1.00	1.15	------	38 00	1208
6.53	1.81	1.65	14.03	-------	13.29	12.00	0.74	-------	1.84	2.00	1.84	------	43 00	188
9.32	1.83	1.65	13.71	-------	12.75	12.00	0.96	-------	2.02	2.00	2.02	------	39 75	458
8.38	1.64	1.65	13.33	-------	12.03	12.00	1.30	-------	2.10	2.00	2.10	------	42 00	1
4.72	1.28	0.82	9.12	-------	8.52	8.00	0.60	-------	5.72	4.00	5.72	------	-------	447
5.09	1.04	1.03	9.96	-------	9.44	9.00	0.52	-------	1.29	1.00	1.29	------	35 00	1116
7.01	3.17	3.29	9.74	-------	8.72	8.00	1.02	-------	7.49	7.00	7.49	------	56 50	2
4.89	3.45	3.29	9.28	-------	8.76	8.00	0.52	-------	6.91	7.00	6.91	------	57 00	850
5.93	1.79	1.65	10.76	-------	9.06	8.00	1.70	-------	2.09	2.00	2.09	------	40 80	473
6.84	2.04	1.65	10.93	-------	9.13	8.00	1.80	-------	2.00	2.00	2.00	------	37 00	488
7.53	1.71	1.65	10.20	-------	8.72	8.00	1.48	-------	1.85	2.00	1.85	------	37 00	849

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*Deficient.

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE COE-MORTIMERS COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
1237	E. Frank Coe's Celebrated Special Potato Fertilizer.	Roland Benjamin, Towanda,
309	E. Frank Coe's Columbian Corn and Potato Fertilizer.	Abington Lumber Co., Dalton,
1239	E. Frank Coe's Columbian Corn and Potato Fertilizer.	C. B. Estabrook, Rummerfield,
80	E. Frank Coe's Columbian Corn and Potato Fertilizer.	Adam Heberling, Orwin,
372	E. Frank Coe's Columbian Corn and Potato Fertilizer.	H. N. Knoll, Mohnton,
180	E. Frank Coe's New Englander Special,	Edward Mayberry, Pine Grove,
383	E. Frank Coe's New Englander Special,	John Roth, Berks,
311	E. Frank Coe's Pennsylvania No. 1 Grain Special 1916.	Abington Lumber Co., Dalto,
78	E. Frank Coe's Pennsylvania No. 1 Grain Special 1916.	Adam Heberling, Orwin,
1112	E. Frank Coe's Pennsylvania No. 1 Grain Special 1916.	I. W. Scott & Co., Pittsburgh,
1288	E. Frank Coe's Reliable Compound,	C. B. Estabrook, Rummerfield,
79	E. Frank Coe's Reliable Compound,	Adam Heberling, Orwin,
810	E. Frank Coe's Western New Yorker,	Edward J. Leiby, Tamaqua,
	COLUMBIA GUANO COMPANY, ALLIED WITH F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
393	Columbia Capital Guano,	J. P. Fisher, Douglassville,
1015	Columbia Extra Dry Guano,	B. W. Reeder, Mt. Union,
1040	Columbia Prize Guano,	H. E. Gibner, Stoneboro,
1041	Columbia Soluble Guano,	H. E. Gibner, Stoneboro,
575	Columbia Triangle Potato Guano,	W. S. Minnion, Meadville,
	THE CONSUMERS CHEMICAL CORPORATION, AFFILIATED WITH VIRGINIA-CAROLINA CHEMICAL COMPANY OF DELAWARE, NEW YORK, N. Y.	
851	Little Prince Brand,	Belleville Flour Mills Co., Belleville,
356	Little Prince Brand,	Wm. L. Wolfe, Booneville,
362	Oxbow Brand,	Wm. L. Wolfe, Booneville,
	THE JAS. G. DOWNWARD CO., COATESVILLE, PA.	
141	Pioneer Potato Phosphate,	Great Valley Mills Co., Exton,
103	Potato Corn and Grain Phosphate,	Morris S. Bailey, Malvern,
140	Royal Phosphate,	Great Valley Mills Co., Exton,
	EASTERN GUANO COMPANY, NEW YORK, N. Y.	
1128	Eastern Farmers Pride,	Eulalia Milling Co., Coudersport.
	EUREKA CHEMICAL COMPANY, BALTIMORE, MD.	
539	Eureka Farmers Favorite,	Bentleyville Hardware Co., Bentleyville,
1165	Eureka Farmers Favorite,	McFarland Supply Co., Greensburg,
	FARMERS FERTILIZER WORKS, ELIZABETHTOWN, PA.	
380	Special Compound,	H. S. Newcomer, Mt. Joy,
339	Special Compound,	O. E. Rumberger, Thompstown,
	JOSEPH R. GAWTHROP, KENNETT SQUARE, PA.	
83	Special Potato Phosphate,	Jos. R. Gawthrop, Kennett Square,

FERTILIZERS—Continued.

	NITROGEN.		PHOSPHORIC ACID.						POTASH.					
			Total.		Available.		Insoluble.							
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
5.97	3.26	3.29	10.09	9.00	8.84	8.00	1.25	1.00	3.88	4.00	3.88	------	-------	1237
4.11	2.04	1.65	10.89	9.00	9.95	8.00	0.94	1.00	3.34	3.00	3.34	------	45 00	309
5.38	1.88	1.65	9.68	9.00	8.54	8.00	1.14	1.00	3.24	3.00	2.40	0.84	37 75	1239
4.00	*1.14	1.65	9.18	9.00	8.08	8.00	1.10	1.00	3.42	3.00	3.42	------	43 00	80
5.79	1.75	1.65	10.60	9.00	9.18	8.00	1.42	1.00	3.12	3.00	3.12	------	45 00	372
5.82	1.26	0.82	10.03	9.00	8.81	8.00	1.22	1.00	2.81	2.00	2.81	------	-------	180
6.43	1.04	0.82	11.14	9.00	9.84	8.00	1.30	1.00	2.15	2.00	2.15	------	-------	383
3.53	1.11	0.82	12.84	11.00	11.54	10.00	1.30	1.00	1.25	1.00	1.25	------	37 00	811
5.37	0.85	0.82	11.63	11.00	10.19	10.00	1.44	1.00	1.28	1.00	1.28	------	35 25	78
6.64	0.99	0.82	12.22	11.00	11.10	10.00	1.12	1.00	1.00	1.00	1.00	------	43 00	1112
6.10	2.05	1.65	14.30	13.00	13.24	12.00	1.06	1.00	2.38	2.00	2.38	------	37 75	1238
7.90	1.62	1.65	13.20	13.00	12.48	12.00	0.72	1.00	2.32	2.00	2.32	------	44 25	79
2.76	1.01	0.82	8.29	9.00	*6.99	8.00	1.30	1.00	4.13	4.00	4.13	------	40 00	810
4.00	1.04	0.82	10.33	8.50	9.09	8.00	1.24	0.50	2.37	2.00	2.37	------	37 50	393
3.69	0.96	0.82	9.54	8.50	8.50	8.00	1.04	0.50	3.23	3.00	3.23	------	35 00	1015
8.44	1.55	1.65	10.52	8.50	9.06	8.00	1.46	0.50	*4.58	5.00	4.58	------	45 75	1040
3.42	1.72	1.65	10.10	8.50	8.56	8.00	1.54	0.50	1.86	2.00	1.86	------	37 25	1041
3.77	1.78	1.65	7.49	6.50	6.75	6.00	0.74	0.50	2.92	3.00	2.92	------	34 50	575
9.29	1.12	0.82	11.12	10.00	10.30	9.00	0.82	1.00	3.05	3.00	3.05	------	37 50	851
8.50	1.00	0.82	11.13	10.00	10.43	9.00	0.70	1.00	3.27	3.00	3.27	------	37 00	356
6.04	1.05	0.82	10.09	9.00	8.95	8.00	1.14	1.00	1.19	1.00	1.19	------	31 00	362
5.24	*1.67	2.46	8.83	11.00	*7.73	10.00	1.10	1.00	*1.05	2.00	0.30	0.75	48 00	141
4.06	1.70	1.65	8.71	11.00	*7.56	10.00	1.15	1.00	1.88	2.00	0.60	0.28	-------	103
4.77	1.13	0.82	9.82	11.00	*9.04	10.00	0.78	1.00	*0.74	1.00	0.30	0.44	40 00	140
3.32	1.67	1.65	10.96	-------	9.34	8.00	1.62	-------	1.84	2.00	1.84	------	37 50	1128
5.47	1.80	------	10.35	-------	9.41	8.00	0.94	0.50	2.21	2.00	2.21	------	50 00	539
7.55	1.59	1.64	9.80	-------	8.74	8.00	1.06	0.50	1.88	2.00	1.88	------	43 00	1105
9.68	0.82	0.82	10.26	9.00	9.22	8.00	1.04	1.00	2.82	2.00	2.82	------	34 50	380
5.50	0.80	0.82	10.43	9.00	9.51	8.00	0.92	1.00	2.45	2.00	2.45	------	32 40	339
4.80	1.82	0.80	8.30	6.00	8.10	5.00	0.20	1.00	2.30	1.00	2.30	------	32 00	83

*Deficient.

TABLE I.—COMPLETE

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	GRIFFITH & BOYD CO., BALTIMORE, MD.	
967	Griffith & Boyd Co.'s Cereal Plant Food,	J. S. Artley, Muncy,
328	Griffith & Boyd Co.'s Cereal Plant Food,	J. T. Beckwith, Port Matilda,
998	Griffith & Boyd Co.'s Cereal Plant Food,	West Manheim United Farmers Association Hanover,
53	Griffith & Boyd Co.'s Economizer,	A. L. Hartman, Schaefferstown,
738	Griffith & Boyd Co.'s Farmers Potato Manur.e	F. E. Bailey, Northbrook,
959	Griffith & Boyd Co.'s Farmers Potato Manur.e	J. E. Callahan & Sons, Montoursville,
649	Griffith & Boyd Co.'s Farmers Potato Manur.e	Geo. A. Wolf & Sons, Mt. Wolf,
965	Griffith & Boyd Co.'s Farmers Queen,	J. S. Artley, Muncy,
651	Griffith & Boyd Co.'s Farmers Queen,	Geo. A. Wolf & Sons, Mt. Wolf,
1046	Griffith & Boyd Co.'s Fish, Blood & Potash.	Harmony Cereal Co., Harmony,
89	Griffith & Boyd Co.'s Fish, Blood & Potash.	Passmore & Co., Nottingham,
221	Griffith & Boyd Co.'s Fish, Blood & Potash.	E. L. White, Danville,
968	Griffith & Boyd Co.'s General Crop Grower,	J. S. Artley, Muncy,
735	Griffith & Boyd Co.'s General Crop Grower,	E. A. & J. L. Pennock, Chatham,
960	Griffith & Boyd Co.'s Nitro Crop Feeder,	J. E. Callahan & Sons, Montoursville,
963	Griffith & Boyd Co.'s Peerless Fertilizer,	J. S. Artley, Muncy,
892	Griffith & Boyd Co.'s Peerless Fertilizer,	Jones Evanson, Christiana,
541	Griffith & Boyd Co.'s Peerless Fertilizer,	Peacock Brothers, Houston,
329	Griffith & Boyd Co.'s Reliable Crop Grower	J. T. Beckwith, Port Matilda,
737	Griffith & Boyd Co.'s Reliable Crop Grower	E. A. & J. L. Pennock, Chatham,
223	Griffith & Boyd Co.'s Reliable Crop Grower.	E. L. White, Danville,
999	Griffith & Boyd Co.'s Royal Potash Guano,	West Manheim United Farmers Association Hanover,
397	Griffith & Boyd Co.'s Tobacco & Vegetable Grower.	H. E. Hoffman, Denver,
891	Griffith & Boyd Co.'s Valley Fertilizer,	Jones Evanson, Christiana,
333	Special Peerless Guano,	A. M. Butler, Howard,
708	Special Peerless Guano,	J. E. Callahan & Sons, Montoursville,
374	Special Peerless Guano,	John I. Clay, Palmyra,
	S. M. HESS & BROTHERS, INC., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., PHILADELPHIA, PA.	
833	Ammoniated Super-Phosphate,	J. A. Yost, Ringtown,
782	Fish & Potash Manure,	Geo. Sweitzer, Lehighton,
63	Keystone Phosphate,	Saml. Buffington, Sacramento,
621	Keystone Phosphate,	E. B. Fritz & Sons Co., Quarryville,
428	Keystone Phosphate,	J. M. Hiltebeitel, Green Lane,
517	Potato Crop Grower,	T. G. Hager, Farmington,
464	Potato Crop Grower,	Menno Yoder, Meyersdale,
530	Special Compound,	N. J. Miller & Co., Elk Lick,
67	Special Compound,	J. M. Rebuck, Klingerstown,
816	Wheat, Corn & Grass Manure,	Chas. Dressler, Conyngham,
378	Wheat, Corn & Grass Manure,	Ed. Fittery, Lebanon,
355	Wheat, Corn & Grass Manure,	H. M. Stomm, Loganton,
1223	Wheat, Corn & Grass Manure,	Harvey Werner, Nazareth,
	M. P. HUBBARD COMPANY, INC., BALTIMORE, MD.	
620	Hubbard's Big Jim Compound,	A. L. Herr & Brother, Quarryville,
238	Hubbard's Big Jim Compound,	Joseph Whitmoyer, Unityville,

FERTILIZERS—Continued.

	NITROGEN.		PHOSPHORIC ACID.						POTASH.					
			Total.		Available.		Insoluble.							
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
2.93	0.96	0.82	9.82	-------	8.54	8.00	1.28	-------	2.09	2.00	2.09	------	37 00	967
7.08	1.10	0.82	10.75	-------	9.43	8.00	1.32	-------	2.18	2.00	2.18	------	34 00	328
3.45	0.94	0.82	9.96	-------	9.24	8.00	0.72	-------	2.02	2.00	2.02	------	28 50	998
3.08	0.65	0.41	7.92	-------	6.72	6.00	1.20	-------	1.26	1.00	1.26	------	-------	53
5.37	0.82	0.82	8.78	-------	8.40	8.00	0.38	-------	5.94	6.00	5.94	------	44 00	738
3.37	1.00	0.82	9.70	-------	8.46	8.00	1.24	-------	6.17	6.00	6.17	------	47 00	959
9.07	1.04	0.82	10.02	-------	9.60	8.00	0.42	-------	*5.45	6.00	5.45	------	45 00	649
3.94	0.90	0.82	10.60	10.00	9.78	9.00	0.82	1.00	3.46	3.00	3.46	------	41 00	965
7.07	1.13	0.82	10.30	-------	9.94	9.00	0.36	-------	3.34	3.00	3.34	------	35 00	651
2.84	1.70	1.44	8.86	-------	7.14	7.00	1.72	-------	2.20	2.00	2.20	------	39 25	1046
2.96	1.67	1.44	8.98	-------	7.44	7.00	1.54	-------	2.09	2.00	2.09	------	35 00	89
5.10	1.90	1.44	8.59	-------	7.47	7.00	1.12	-------	2.38	2.00	2.38	------	37 00	221
4.48	1.80	1.65	9.63	-------	8.91	8.00	0.72	-------	2.56	2.00	2.56	------	42 00	968
6.12	1.95	1.65	9.78	-------	9.04	8.00	0.74	-------	2.02	2.00	2.02	------	36 50	735
2.64	*5.55	6.58	6.44	-------	5.98	4.00	0.46	-------	2.60	2.00	2.60	------	64 00	960
2.99	0.56	0.41	9.82	-------	9.04	8.00	0.78	-------	2.07	2.00	2.07	------	33 00	963
2.66	0.58	0.41	10.30	-------	8.62	8.00	1.68	-------	2.40	2.00	2.40	------	31 00	892
2.93	0.88	0.41	9.24	-------	8.26	8.00	0.98	-------	2.44	2.00	2.44	------	33.00	541
3.90	0.91	0.82	10.98	-------	9.46	8.00	1.52	-------	1.12	1.00	1.12	------	31 50	329
4.29	0.97	0.82	9.71	-------	8.49	8.00	1.22	-------	1.00	1.00	1.00	------	28 00	737
5.36	0.95	0.82	10.56	-------	9.32	8.00	1.24	-------	1.28	1.00	1.28	------	31 00	223
5.65	0.85	0.82	10.63	-------	9.67	8.00	0.96	-------	*3.72	4.00	3.72	------	33 50	999
5.61	2.60	2.47	9.79	-------	9.09	8.00	0.70	-------	3.01	3.00	3.01	------	-------	397
7.87	0.99	0.62	9.49	-------	8.59	8.00	0.90	-------	3.47	3.00	3.47	------	35 00	891
4.14	0.56	0.41	10.85	-------	8.97	8.00	1.88	-------	1.06	1.00	1.06	------	-------	333
4.27	0.56	0.41	10.01	-------	8.71	8.00	1.30	-------	1.26	1.00	1.26	------	30 00	708
8.50	0.65	0.41	10.63	-------	9.11	8.00	1.52	-------	1.41	1.00	1.41	------	32 00	374
5.91	1.94	1.65	9.88	9.00	8.66	8.00	1.22	1.00	2.64	2.00	2.64	------	34 00	833
5.73	1.87	1.65	10.34	9.00	9.10	8.00	1.24	1.00	3.30	3.00	3.30	------	-------	782
4.01	1.22	0.82	8.34	9.00	*7.20	8.00	1.14	1.00	1.42	1.00	1.42	------	34 50	63
3.02	1.09	0.82	9.74	9.00	8.40	8.00	1.34	1.00	0.95	1.00	0.95	------	28 00	621
5.75	1.29	0.82	9.74	9.00	8.58	8.00	1.16	1.00	1.94	1.00	1.94	------	35 00	428
8.72	1.74	1.65	9.84	9.00	8.80	8.00	1.04	1.00	4.03	4.00	4.03	------	-------	517
9.24	1.95	1.65	9.13	9.00	8.59	8.00	0.54	1.00	3.84	4.00	3.84	------	-------	464
5.96	0.88	0.82	10.22	9.00	9.52	8.00	0.90	1.00	3.87	4.00	3.87	------	-------	536
3.74	1.01	0.82	9.23	9.00	7.99	8.00	1.24	1.00	4.33	4.00	4.33	------	44 00	67
3.89	1.05	0.82	10.33	9.00	8.87	8.00	1.46	1.00	2.09	2.00	2.09	------	39 00	816
7.40	1.00	0.82	10.87	9.00	9.55	8.00	1.32	1.00	1.91	2.00	1.91	------	38 25	378
3.59	1.05	0.82	10.31	9.00	8.19	8.00	2.12	1.00	2.44	2.00	0.90	1.54	36 75	355
3.15	0.97	0.82	10.09	9.00	8.79	8.00	1.30	1.00	1.88	2.00	1.88	------	36 50	1223
3.82	0.60	------	8.87	-------	8.73	8.00	0.14	-------	0.94	1.00	0.94	------	24 00	620
4.30	0.50	------	9.32	-------	8.72	8.00	0.60	-------	1.04	1.00	1.04	------	24 00	238

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
861	Hubbard's Good & Cheap Compound,	C. E. Houseworth, Port Treverton,
997	Hubbard's Old Economy Best for the Money.	M. J. Sheffer, Hanover,
	THE HUBBARD FERTILIZER COMPANY, BALTIMORE, MD.	
827	Hubbard's Climax Phosphate,	L. Hill, Beach Haven,
154	Hubbard's Farmers I. X. L.,	Glossner Implement Co., Lock Haven,
800	Hubbard's Farmers I. X. L.,	Geo. Seltzer, Orwigsburg,
68	Hubbard's 1-8-3 Fertilizer,	W. R. Schadle, Klingerstown,
602	Hubbard's Fish Mixture,	Dietz & Mooney, Clarion,
155	Hubbard's Fish Mixture,	Glossner Implement Co., Lock Haven,
814	Hubbard's Fish Mixture,	F. H. Houseknecht, Sybertsville,
1243	Hubbard's Fish Mixture,	P. H. Quinn, Dushore,
214	Hubbard's Fish and Potash Mixture,	Geo. W. Anderson, Cessna,
1163	Hubbard's Fish and Potash Mixture,	J. E. Crisman, South Fork,
601	Hubbard's Money Maker Fertilizer,	Deitz & Mooney, Clarion,
	INTERNATIONAL AGRICULTURAL CORPORATION, BUFFALO FERTILIZER WORKS, BUFFALO, N. Y.	
605	Buffalo General Favorite,	G. M. Reichart, Parkers Landing,
1068	Buffalo Tin Top,	A. C. Daugherty, Grove City,
604	I. A. C. Complete,	G. M. Reichart, Parkers Landing,
1063	I. A. C. 2-8-10,	A. C. Daugherty, Grove City,
	KEYSTONE BONE FERTILIZER CO., PHILADELPHIA, PA.	
192	Keystone Corn & Cereal Grower,	G. B. Cunfer, Lehighton,
193	Keystone Grain & Grass Manure,	G. B. Cunfer, Lehighton,
81	Keystone Royal Corn & Potato Manure Revised.	Chas. Schoffstall, Valley View,
	KEYSTONE GRANGE EXCHANGE, MANSFIELD, PA.	
1031	Grangers Leader,	Charles King, Sharon,
211	Grangers Prize,	E. E. Blackburn, Cessna,
	LANCASTER BONE FERTILIZER COMPANY, LANCASTER, PA.	
73	Tobacco & Potato Compound,	Ells Erdman, Klingerstown,
	LANCASTER CHEMICAL COMPANY, LANCASTER, PA.	
982	No. 6 Grain Special,	F. E. Neefe & Co., Coudersport,
1186	No. 17 Wrapper Leaf Special,	Jos. K. Shultz Estate, Washington Boro
983	No. 18 Success Brand,	F. E. Neefe & Co., Coudersport,
	LEBANON FERTILIZER WORKS, LEBANON, PA.	
365	Levan's Farmers Favorite Fertilizer,	Solomon & Waltz, Antes Fort,
245	Levan's Farmers Standard 2-12-2,	J. S. Cole, Millville,
178	Levan's Farmers Standard 2-12-2,	Hegins Grange, Hegins,
803	Levan's Golden Sheaf,	Jno. Kunkle, Mahanoy City,
687	Levan's Golden Sheaf,	Solomon & Waltz, Antes Fort,
46	Levan's Golden Sheaf,	N. R. Yost, Myerstown,
172	Levan's Lebanon Special Fertilizer,	Hegins Grange, Hegins,
903	Levan's Special Tobacco Compound,	Millersville Supply Co., Millersville,
367	Levan's Special Tobacco Compound,	Solomon & Waltz, Antes Fort,
181	Levan's Truckers Favorite Fertilizer,	Harry Keeffer, Pine Grove,

FERTILIZERS—Continued.

	NITROGEN.		PHOSPHORIC ACID.						POTASH.					
			Total.		Available.		Insoluble.							
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
7.20	0.94	0.82	8.29	------	*7.69	8.00	0.60	------	2.54	1.00	2.54	------	32 50	861
3.14	0.45	0.41	9.82	------	9.38	8.00	0.44	------	2.11	2.00	2.11	------	30 00	997
4.04	1.00	0.82	9.85	8.00	8.53	7.00	1.32	1.00	4.50	4.00	4.50	------	------	827
7.95	1.76	1.64	10.02	9.00	8.50	8.00	1.52	1.00	2.01	2.00	2.01	------	40 25	154
7.19	1.73	1.64	9.56	9.00	8.44	8.00	1.12	1.00	2.25	2.00	2.25	------	------	800
4.27	1.26	0.82	9.84	9.00	8.90	8.00	0.94	1.00	3.16	3.00	3.16	------	------	68
3.77	1.15	0.82	10.04	9.00	8.70	8.00	1.34	1.00	1.16	1.00	1.16	------	33 00	602
6.10	0.88	0.82	9.56	9.00	8.44	8.00	1.12	1.00	1.19	1.00	1.19	------	34 00	155
3.73	1.25	0.82	9.94	9.00	8.42	8.00	1.52	1.00	1.53	1.00	1.53	------	40 00	814
3.77	0.90	0.82	9.48	9.00	8.22	8.00	1.26	1.00	1.43	1.00	1.43	------	34 00	1248
6.36	0.63	0.41	8.51	9.00	*7.55	8.00	0.96	1.00	1.80	2.00	1.80	------	32 50	214
2.47	0.75	0.41	9.45	9.00	8.19	8.00	1.26	1.00	2.03	2.00	2.03	------	35 00	1163
5.28	2.05	1.64	10.54	9.00	9.32	8.00	1.22	1.00	4.83	5.00	4.83	------	45 00	601
3.19	1.15	0.80	10.52	9.00	8.66	8.00	1.86	1.00	1.01	1.00	1.01	------	31 00	605
3.58	1.08	0.80	10.41	9.00	8.55	8.00	1.86	1.00	4.44	4.00	4.44	------	42 00	1062
3.88	1.80	1.60	10.41	9.00	9.25	8.00	1.16	1.00	*1.65	2.00	1.65	------	40 00	604
3.02	1.79	1.60	10.07	9.00	8.43	8.00	1.64	1.00	10.41	10.00	10.41	------	63 00	1063
8.12	2.04	1.64	10.55	9.00	8.01	8.00	2.54	1.00	2.57	2.00	2.57	------	40 00	192
2.72	1.20	0.82	11.78	8.00	8.88	7.00	2.90	1.00	2.22	1.00	2.22	------	31 75	193
5.80	2.28	1.64	10.02	9.00	8.32	8.00	1.70	1.00	4.16	4.00	4.16	------	------	81
5.96	1.79	1.65	10.07	8.00	8.53	8.00	1.54	------	2.90	2.00	2.90	------	38 00	1031
5.75	1.88	1.65	9.94	8.00	8.60	8.00	1.34	------	5.05	5.00	5.05	------	43 90	211
5.72	0.90	0.82	10.08	------	9.16	8.00	0.92	------	3.19	3.00	3.19	------	42 00	73
2.51	0.44	------	11.16	------	10.06	8.00	1.10	------	1.01	1.00	1.01	------	38 00	982
7.39[A]	*3.40	------	7.83	------	5.56	4.00	2.27	1.00	5.30	5.00	0.50	4.80	65 00	1186
4.14	0.90	------	10.52	------	9.16	8.00	1.36	------	*3.65	4.00	3.65	------	48 00	983
5.22	0.88	0.82	9.96	9.00	8.92	8.00	1.04	1.00	2.23	2.00	2.23	------	34 50	365
9.67	1.78	1.65	12.75	13.00	12.49	12.00	0.26	1.00	2.53	2.00	------	2.53	40 25	245
7.72	1.66	1.65	12.80	13.00	12.36	12.00	0.44	1.00	2.53	2.00	------	2.53	39 00	178
5.39	0.96	0.82	10.33	9.00	9.21	8.00	1.12	1.00	1.34	1.00	------	1.34	------	803
3.61	1.10	0.82	9.40	9.00	9.00	8.00	0.40	1.00	1.71	1.00	------	1.71	31 00	687
4.13	0.88	0.82	11.05	9.00	10.45	8.00	0.60	1.00	1.54	1.00	------	1.54	------	46
7.03	1.71	1.65	8.92	9.00	8.26	8.00	0.66	1.00	2.26	2.00	1.80	0.46	36 00	172
7.25	1.69	1.65	10.70	11.00	10.28	10.00	0.42	1.00	5.02	4.00	4.00	1.02	46 50	903
7.51	1.81	1.65	11.38	11.00	10.96	10.00	0.42	1.00	4.76	4.00	1.20	3.56	46 50	367
7.57	2.68	2.47	12.93	13.00	12.51	12.00	0.42	1.00	3.66	3.00	------	3.66	------	181

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*Deficient.

[A] Reg. Guar.

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE MAPES FORMULA & PERUVIAN Guano CO., NEW YORK, N. Y.	
1184	The Mapes General Tobacco Manure,	Jos. K. Shultz, Estate, Washington Boro,
714	The Mapes Grain Brand,	John W. Root, Kimberton,
419	The Mapes Potato Manure.	Yeakel & Huzzard, Norristown,
1185	The Mapes Tobacco Starter, Improved,	Jos. K. Shultz Estate Washington Boro,
	THE MARTIN FERTILIZER CO., PHILADELPHIA, PA.	
799	Martin's Corn & Cereal Special,	Clayton Kimmel, Orwigsburg,
888	Martin's Dissolved Organic Compound,	Bart Grange, Bart,
417	Martin's Dissolved Organic Compound,	Wm. J. Neal, Newtown Square,
764	Martin's Grain Grower,	Albright & Schwoyer, Kempton,
515	Martin's Grain Grower,	Hershey Department Store, Hershey,
778	Martin's Organic Compound,	Kemerer Hardware Co., Lehighton,
600	Martin's Sure Grower,	Farmers General Store, Shippensville,
516	Martin's Sure Grower,	Hershey Department Store, Hershey,
779	Martin's Sure Grower,	Kemerer Hardware Co., Lehighton,
	THE MILLER FERTILIZER CO., BALTIMORE, MD.	
72[illegible]	Ammoniated,	Miller Harkins, Hickory Hill,
762	Club Brand,	Albright & Schwoyer, Kempton,
987	Club Brand,	G. N. Bamberger, Etters,
707	Club Brand,	Herman Keebler, Montoursville,
988	Harvest Queen,	G. N. Bamberger, Etters,
392	Harvest Queen,	Samuel Happel, Birdsboro,
720	Harvest Queen,	Miller Harkins, Hickory Hill,
706	Hustler Phosphate,	Herman Keebler, Montoursville,
390	Miller's Pimlico,	E. & G. Brooke Land Co., Birdsboro,
391	Miller's Unexcelled,	E. & G. Brooke Land Co., Birdsboro,
862	Quarter Mixture,	C. E. Houseworth, Port Treverton,
	NITRATE AGENCIES COMPANY, NEW-YORK, N. Y.	
823	Naco Brand 4-8-4 Potato Formula,	Luzerne County Farm Bureau, Wilkes-Barre,
288	Naco Brand 4-8-4 Potato Formula,	John Williams, Moscow,
48	Pennsylvania Farmers Association Brand 1-8-1.	Kimmerling Grange, Lebanon,
812	Pennsylvania Farmers Association Brand 2-8-2.	N. J. Kunkle, Orwigsburg,
163	Pennsylvania Farmers Association Brand 5-4-5.	A. T. Baird, Lock Haven,
	C. OBER & SONS COMPANY, BALTIMORE, MD.	
631	Ober's Farmers Mixture,	Ajax Supply Co., Lancaster,
513	Ober's Farmers Mixture,	John M. Biocher, Gettysburg,
632	Ober's Golden Seal Tobacco Guano,	Ajax Supply Co., Lancaster,
453	Ober's Golden Seal Tobacco Guano,	Henry S. Zook, Elverson,
31	Ober's Golden Top Wheat and Corn Grower,	Cook Grain, Feed & Supply Co., Dillsburg,
512	Ober's Independent Mixture,	John M. Biocher, Gettysburg,
385	Ober's Independent Mixture,	Chas. Kerchner, Hamburg,
467	Ober's Independent Mixture,	Shipley Hardware Co., Meyersdale,
635	Ober's Special Plant Food,	Ajax Supply Co., Lancaster,
634	Soluble Ammoniated Super Phosphate of Lime.	Ajax Supply Co., Lancaster,
	OXFORD PACKING WORKS, OXFORD, PA.	
444	O. P. W. No. 1,	Harry Miller, Collamer,

FERTILIZERS—Continued.

	NITROGEN.		PHOSPHORIC ACID.						POTASH.					
			Total.		Available.		Insoluble.							
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
†6.01	†4.21	4.12	†4.53	------	†*2.83	4.00	†1.70	------	†5.54	5.00	0.60	4.94	†79 00	1184
6.31	1.95	1.65	11.12	10.00	8.06	8.00	3.03	2.00	2.63	2.00	2.63	------	45 00	714
6.37	3.18	3.20	9.87	8.00	7.13	7.00	2.74	1.00	*4.42	5.00	3.10	1.32	61 00	419
3.80	5.83	4.12	8.16	8.00	*5.12	6.00	3.04	2.00	0,90	1.00	0.40	0.50	56 00	1185
5.82	1.51	------	11.22	------	8.72	8.00	2.50	------	*1.71	2.00	1.71	------	------	799
4.92	0.84	------	9.97	------	8.73	8.00	1.24	------	4.10	4.00	4.10	------	36 00	888
4.82	0.75	------	9.80	------	8.70	8.00	1.10	------	5.19	4.00	5.19	------	43 00	417
7.33	0.70	------	7.84	------	*6.74	8.00	1.10	------	2.81	2.00	2.81	------	30 50	761
8.64	1.22	------	10.94	------	9.64	8.00	1.30	------	*1.80	2.00	1.80	------	35 00	515
6.83	1.10	0.82	10.45	------	8.97	8.00	1.48	------	*3.37	4.00	3.37	------	46 00	778
11.36	0.90	0.82	10.65	------	8.41	8.00	2.24	------	2.06	1.00	2.06	------	30 00	600
7.56	1.06	------	10.34	------	8.82	8.00	1.52	------	1.08	1.00	1.08	------	32 00	516
4.67	1.25	------	10.20	------	8.20	8.00	2.00	------	1.21	1.00	1.21	------	37 00	779
5.07	1.71	------	9.86	------	8.80	8.00	1.06	0.50	2.13	2.00	2.13	------	38 50	729
6.33	0.75	------	9.80	------	8.86	8.00	0.94	0.50	2.28	2.00	2.28	------	29 00	763
2.64	0.58	------	10.16	------	9.44	8.00	0.72	0.50	1.94	2.00	1.94	------	26 00	987
3.45	0.65	------	9.63	------	8.81	8.00	0.82	------	2.29	2.00	2.29	------	31 25	707
2.69	1.00	------	11.32	------	10.26	9.00	1.06	0.50	3.02	3.00	3.02	------	34 00	988
5.00	0.98	------	11.87	------	10.49	9.00	1.38	0.50	3.03	3.00	3.03	------	38 80	392
4.33	1.19	------	10.27	------	9.21	9.00	1.06	0.50	2.92	3.00	2.92	------	37 00	730
4.08	1.08	------	9.97	------	9.19	8.00	0.78	------	1.08	1.00	1.08	------	34 00	706
3.50	1.80	------	10.07	------	8.95	8.00	1.12	0.50	10.45	10.00	10.45	------	------	390
4.22	1.74	------	12.70	------	10.70	10.00	2.00	0.50	2.22	2.00	2.22	------	------	391
4.28	0.40	------	9.82	------	9.00	9.00	0.82	0.50	0.50	0.25	0.50	------	29 50	862
3.06	3.45	3.20	11.34	9.00	8.08	8.00	3.26	1.00	4.82	4.00	------	4.82	44 00	823
3.12	3.23	3.20	9.00	9.00	8.12	8.00	0.88	1.00	4.09	4.00	2.00	2.09	45 00	288
4.16	1.21	------	10.04	------	9.24	------	0.80	------	1.80	------	1.30	0.50	------	48
2.74	1.79	------	10.44	------	9.62	------	0.82	------	2.86	------	1.00	1.86	39 00	812
4.79	4.46	------	6.40	------	5.38	------	1.02	------	5.01	------	1.70	3.31	51 65	163
5.19	1.03	0.82	11.10	10.00	10.44	9.00	0.66	1.00	3.18	2.00	3.18	------	33 25	631
5.27	1.25	0.82	10.71	10.00	9.87	9.00	0.84	1.00	2.86	2.00	2.86	------	34 00	513
5.93	2.80	2.47	9.98	9.00	9.04	8.00	0.94	1.00	1.63	1.00	------	1.63	39 25	632
6.32	2.80	2.47	10.28	9.00	9.46	8.00	0.82	1.00	1.55	1.00	0.50	1.05	36 00	453
12.15	0.95	0.82	10.15	10.00	9.57	9.00	0.58	1.00	3.69	3.00	3.69	------	32 25	31
5.77	1.18	0.82	10.71	9.00	9.63	8.00	1.08	1.00	1.67	1.00	1.67	------	------	512
9.74	0.99	0.82	10.33	9.00	9.57	8.00	0.76	1.00	1.28	1.00	1.28	------	------	385
10.00	0.99	0.82	10.33	9.00	9.63	8.00	0.70	1.00	1.24	1.00	1.24	------	32 00	467
4.31	2.01	1.65	11.46	10.00	10.54	9.00	0.92	1.00	5.01	5.00	5.01	------	46 00	635
5.45	1.87	1.65	10.09	9.00	8.93	8.00	1.16	1.00	2.45	2.00	1.20	1.25	37 00	634
4.02	1.68	1.44	11.87	9.00	9.69	8.00	2.18	1.00	*3.52	4.00	3.52	------	45 00	444

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†* Deficient.
† Excluded from average.

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	PATAPSCO GUANO COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
14	Coon Brand Guano,	Dillsburg Grain & Milling Co., Dillsburg,
395	Coon Brand Guano,	Morris W. Mohler, Ephrata,
556	Coon Brand Guano,	Russel Brothers, Washington,
845	Patapsco B. B. & P. Brand Revised,	Joseph Lightner, Loysville,
1170	Patapsco B. B. & P. Brand Revised,	F. P. Waite, Tyrone,
1226	Patapsco Big Chief Brand With Potash,	William Johnson, Quakertown,
993	Patapsco Big Chief Brand With Potash,	H. P. Kocher, Wrightsville,
992	Patapsco Early Trucker For Quick Growth,	H. P. Kocher, Wrightsville,
1225	Patapsco Fish Guano,	Wm. Johnson, Quakertown,
843	Patapsco General Crop Producer,	Chas. Bruner, New Bloomfield,
1006	Patapsco General Crop Producer,	E. Thomas, Gettysburg,
396	Patapsco Guano,	Morris W. Mohler, Ephrata,
906	Patapsco Special Complete Manure,	Oscar Van Buskirk, Bald Mount,
13	Patapsco Tobacco and Potato Fertilizer,	Dillisburg Grain & Milling Co., Dillsburg,
302	Patapsco Vegetable and Corn Fertilizer,	Oscar Van Buskirk, Bald Mount,
1122	"Possum" Brand Guano,	H. J. Lindner, Pottsgrove,
1007	"Possum" Brand Guano,	E. Thomas, Gettysburg,
	PIEDMONT MT. AIRY GUANO, CO., BALTIMORE, MD.	
841	Piedmont Ammoniated Fertilizer,	B. F. Harting, Newport,
989	Piedmont Farmers Favorite,	G. N. Bamberger, Etters,
756	Piedmont Farmers Favorite,	John B. Bucher, Ephrata,
1044	Piedmont Farmers Favorite,	Harmony Cereal Co., Harmony,
1047	Piedmont Fish Guano & Potash,	Harmony Cereal Co., Harmony,
1220	Piedmont Insula Fish Guano,	Henry Baumgartner, Vera Cruz,
755	Piedmont Insula Fish Guano,	John B. Bucher, Ephrata,
809	Piedmont Perferction Guano,	Jacob Shock, Tamaqua,
370	Piedmont Plow Brand,	Solomon & Waltz, Antes Fort,
	PITTSBURGH PROVISION & PACKING CO., PITTSBURGH, PA.	
1108	Keystone Fertilizer,	Scobie & Parker, Pittsburgh,
	RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.	
873	Rasin's Best Crop Formula,	E. B. Maurer, Boswell,
440	Rasin's Capital Grain and Clover Compound.	Oxford Grain & Hay Co., Oxford,
118	Rasin's Royal Fish and Potash Mixture,	E. H. Keen & Son, Parkesburg,
260	Rasin's Royal Fish and Potash Mixture,	H. B. Low & Son, Orangeville,
1207	Rasin's Royal Fish and Potash Mixture,	H. K. Mohr, Quakertown,
1126	Rasin's Royal Manure,	H. A. Snyder, Strawberry Ridge,
119	Rasin's United Grain Grower,	E. H. Keen & Son, Parkesburg,
127	Rasin's Universal Crop Manure,	Chester County Association of Farmers, Kelton,
479	Rasin's Universal Crop Manure,	Frisbee Hardware Co., Connellsville,
1205	Rasin's Wheat, Corn & Oat Mixture,	H. K. Mohr, Quakertown,
261	William Penn Crop Grower,	H. B. Low & Son, Orangeville,
	READING BONE FERTILIZER CO., READING, PA.	
49	Blood Meat and Potash Mixture,	C. R. Bucher, Myerstown,
1301	Blood Meat and Potash Mixture,	Krause & Freehling, Marwood,
50	Farmers Tankage and Potash For Corn, Grain & Grass.	C. R. Bucher, Myerstown,
1212	Farmers Tankage and Potash For Corn, Grain & Grass.	G. G. Kachline, Bangor,
401	Farmers Tankage and Potash For Corn, Grain & Grass.	Preston F. Powell, West Grove,
677	Reading One Eight and Five,	W. J. Brook, Ariel,
899	Reading One Eight and Five,	Preston F. Powell, West Grove,

FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
7.68	0.88	0.82	10.53	10.00	9.41	9.00	1.12	1.00	1.97	2.00	1.70	0.27	34 90	14
7.06	1.23	0.82	11.09	10.00	10.27	9.00	0.82	1.00	2.66	2.00	2.66	------	32 50	395
5.49	1.04	0.82	10.76	10.00	9.52	9.00	1.24	1.00	1.94	2.00	0.90	1.04	39 00	556
3.61	1.05	0.82	10.08	9.00	8.88	8.00	1.20	1.00	1.06	1.00	1.06	------	31 83	845
2.98	0.91	0.82	9.91	9.00	8.76	8.00	1.15	1.00	1.03	1.00	1.03	------	-------	1170
3.90	0.94	0.82	9.86	10.00	9.27	9.00	0.59	1.00	3.04	3.00	3.04	------	40 00	1226
5.84	0.85	0.82	11.86	10.00	10.82	9.00	1.04	1.00	3.05	3.00	3.05	------	37 05	993
8.69	*3.85	4.11	8.87	8.00	7.99	7.00	0.88	1.00	5.00	5.00	5.00	------	58 25	992
4.22	1.01	0.82	11.93	11.00	10.45	10.00	1.48	1.00	1.34	1.00	1.34	------	35 75	1225
7.17	1.07	0.82	8.78	8.00	7.28	7.00	1.50	1.00	0.89	1.00	0.89	------	31 50	843
2.18	0.94	0.82	9.17	8.00	7.67	7.00	1.50	1.00	0.81	1.00	0.81	------	-------	1006
7.71	1.79	1.65	10.48	9.00	9.58	8.00	0.90	1.00	2.19	2.00	2.19	------	34 00	396
3.14	2.65	2.47	10.48	9.00	9.28	8.00	1.20	1.00	3.95	4.00	3.95	------	50 50	306
10.72	1.95	1.65	9.28	9.00	8.36	8.00	0.92	1.00	4.40	4.00	4.40	------	48 80	13
2.45	2.11	1.65	10.58	9.00	9.40	8.00	1.18	1.00	4.43	4.00	4.43	------	45 50	302
7.17	1.04	0.82	10.16	10.00	9.20	9.00	0.96	1.00	1.07	1.00	1.07	------	33 08	1122
3.42	0.99	0.82	10.58	10.00	9.52	9.00	1.66	1.00	9 93	1.00	0.93	------	-------	1007
8.94	1.16	0.82	11.35	-------	10.43	9.00	0.92	-------	*2.37	3.00	2.37	------	34 00	841
3.98	1.35	0.82	10.55	-------	9.45	8.00	1.10	-------	3.85	4.00	3.85	------	34 00	989
4.69	1.00	0.82	8.93	-------	*7.73	8.00	1.20	-------	4.09	4.00	4.09	------	36 75	756
5.22	0.94	0.82	9.56	-------	8.68	8.00	0.88	-------	*3.66	4 00	3.66	------	35 50	1044
8.48	1.69	1.65	11.97	-------	10.69	10.00	1.28	-------	2.22	2.00	2.22	------	38 00	1047
6.23	1.03	0.41	8.59	-------	8.04	7.00	0.55	-------	2.60	2.00	2.60	------	34 00	1220
4.81	0.50	0.41	6.89	-------	*6.55	7.00	0.34	-------	2.47	2.00	2.47	------	28 00	755
5.86	1.78	1.64	7.08	-------	*6.36	8.00	0.72	-------	7.42	5.00	7.42	------	46 79	809
7.37	1.63	1.65	9.87	-------	8.97	8.00	0.90	-------	3.26	2.00	3.26	------	38 00	370
3.92	1.73	1.43	10.59	11.00	*8.01	9.00	2.58	2.00	1.40	1.00	1.40	------	-------	1108
8.70	1.78	1.65	11.42	11.00	*9.72	10.00	1.70	1.00	6.38	6.00	6.38	------	50 00	873
4.93	1.70	1.65	14.80	13.00	13.58	12.00	1.22	1.00	2.00	2.00	2.00	------	49 50	440
6.55	1.95	1.65	10.44	9.00	8.30	8.00	2.14	1.00	3.55	3.00	3.55	------	33 50	118
8.02	1.55	1.65	11.11	9.00	9.15	8.00	1.96	1.00	3.38	3 00	3.38	------	36 00	260
5.40	2.08	1.65	11.38	9.00	9.33	8.00	2.05	1.00	2.00	3.00	3.00	------	40 00	1207
6.66	0.70	0.41	10.52	9.00	9.68	8.00	1.44	1.00	1.09	1.00	1.09	------	28 00	1126
9.12	0.95	0.82	9.70	9.00	8.58	8.00	1.12	1.00	2.10	2.00	2.10	------	29 50	119
5.64	2.00	1.65	9.66	9.00	8.38	8.00	1.28	1.00	5.32	5.00	5.32	------	42 25	127
5.37	1.93	1.65	10.04	9.00	8.68	8.00	1.36	1 00	5.28	5.00	5.28	------	60 00	479
8.04	0.73	0.41	10.52	9.00	9.30	8.00	1.22	1.00	2.15	2.00	2.15	------	38 00	1205
6.99	1.05	0.82	9.39	9.00	8.27	8.00	1.12	1.00	1.11	1.00	1.11	------	29 00	261
5.77	1.78	1.64	11.58	9.00	10.12	8.00	1.46	1.00	4.22	4.00	4.22	------	-------	49
9.40	1.74	1.64	11.08	9.00	9.78	8.00	1.30	1.00	*3.77	4.00	3.77	------	40 00	1061
6.94	0.93	0.82	12.04	11.00	10.66	10.00	1.38	1.00	2.21	2.00	2.21	------	-------	50
7.15	1.02	0.82	12.04	11.00	10.98	10.00	1.06	1.00	2.03	2.00	2.03	------	36 80	1212
8.24	0.75	0.82	13.46	11.00	11.96	10.00	1.50	1.00	*1.64	2.00	1.64	------	28 50	401
8.45	1.19	0.82	10.06	9.00	9.12	8.00	0.94	1.00	5.07	5.00	5.07	------	48 75	677
5.11	0.95	0.82	9.64	9.00	8.80	8.00	0.84	1.00	5.75	5.00	5.75	------	37 00	890

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	READING CHEMICAL COMPANY, READING, PA.	
257	All Crops,	W. W. Parker, Rohrsburg,
347	Complete Fertilizer,	H. L. McCloskey, Beech Creek,
45	Farmers Choice,	Pierce Edris, Myerstown,
144	Farmers Choice,	C. E. Frazier, Mill Hall,
765	Farmers Choice,	A. A. Geiger, Joanna,
394	Old Standard,	Geo. W. Crouse, Reinholds,
583	Peerless Mixture,	Clayton Smith, Edinboro,
815	Reading Liberty Brand,	F. H. Houseknecht, Sybertsville,
831	Tankage and Potash Mixture,	Wm. Deeble, Ringtown,
751	Tankage and Potash Mixture,	H. C. Harrar, Landsdale,
76	Tankage and Potash Mixture,	Frank Herh, Pitman,
	ROBERT A. REICHARD, ALLENTOWN, PA.	
1233	Reichard's Mortage Lifter,	Robert A. Reichard, Allentown,
195	Reichard's Mortage Lifter,	Wm. Tyson, Lehighton,
789	Reichard's Surpass Phosphate,	John Berger, Lehighton,
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
678	Royster Banner Guano,	F. E. Deveny, Forrest City,
701	Royster Banner Guano,	George Dodson, Shickshinny,
696	Royster's Bully Guano,	Chaafels Seed Store, Williamsport,
271	Royster's Bully Guano,	J. A. Gardner, Moscow,
375	Royster's Bully Guano,	David Reigel, Ono,
1249	Royster's Bully Guano,	E. R. Thomas, Springville,
233	Royster's Cuckoo Guano,	G. E. App, Mausdale,
535	Royster's Cuckoo Guano,	Paul Clark, Beallsville,
273	Royster's Cuckoo Guano,	J. A. Gardner, Moscow,
1189	Royster's Cuckoo Guano,	Charles Wilhelm, Bethlehem,
234	Royster's Dreadnought Guano,	G. E. App, Mausdale,
986	Royster's Dreadnought Guano,	Eulalia Milling Co., Coudersport,
1086	Royster's Dreadnought Guano,	Farmers Supply Co., Milay,
185	Royster's Dreadnought Guano,	J. H. Kunkle, Bath,
230	Royster's Economy Guano,	G. E. App, Mausdale,
330	Royster's Economy Guano,	H. K. Mattern, Julian,
663	Royster's Fish Flesh and Fowl,	Carl H. H. Bowman, Scranton,
183	Royster's Fish Flesh and Fowl,	J. H. Kunkle, Bath,
56	Royster's Fish Flesh and Fowl,	Walter Stump, Robesonia,
232	Royster's Pennsylvania Potato Guano,	G. E. App, Mausdale,
274	Royster's Pennsylvania Potato Guano,	J. A. Gardner, Moscow,
146	Royster's Pennsylvania Potato Guano,	Glossner Implement Co., Lock Haven,
692	Royster's Seeding Down Guano,	Chaafels Seed Store, Williamsport,
681	Royster's Vim Guano,	F. E. Deveny, Forrest City,
1134	Royster's Vim Guano,	R. J. Dunham, Wellsboro,
780	Royster's Vim Guano,	Kemerer Hardware Co., Lehighton,
184	Royster's Wonder Guano,	J. H. Kunkle, Bath,
239	Royster's Wonder Guano,	J. M. Rider, Millville,
1250	Royster's Wonder Guano,	E. R. Thomas, Springville,
	SCHAAL-SHELDON FERTILIZER CO., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BUFFALO, N. Y.	
563	Royal,	Bradford Supply Co., Eldred,
	CHARLES H. SEIBERT, MYERSTOWN, PA.	
47	Pigeon Manure Fertilizer Grade No. 2,	Chas. H. Seibert, Myerstown,
	SHARON RENDERING & FERTILIZER WORKS, SHARON, PA.	
1033	Enterprize Phosphate,	Charles Woge & Sons, Sharon,

FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
8.38	1.74	1.65	12.80	-------	11.96	12.00	0.84	-------	2.18	2.00	2.18	------	32 57	257
4.64	0.95	0.82	9.84	-------	8.92	8.00	0.92	-------	1.20	1 00	1.20	------	33 00	347
4.94	1.08	0.82	10.33	-------	9.59	9.00	0.74	-------	2.95	3.00	2.95	------	-------	45
7.78	0.85	0.82	10.33	-------	9.23	9.00	1.19	-------	2.91	3.00	2.91	------	37 75	144
5.53	1.07	0.82	10.40	-------	9.70	9.00	0.70	-------	3.07	3.00	3.07	------	-------	765
4.37	1.63	1.65	10.43	-------	9.09	8.00	1.34	-------	2.13	2.00	2.13	------	-------	394
3.26	1.80	1.63	9.07	-------	8.75	8.00	0.32	-------	4.41	4.00	4.41	------	45 00	583
6.29	*3.02	3.28	9.56	-------	8.26	8.00	1.30	-------	3.12	3.00	3.12	------	55 00	815
2.99	0.99	0.82	9.21	-------	8.38	8.00	0.86	-------	4.02	4.00	4.02	------	40 00	831
3.41	1.05	------	9.32	-------	8.24	8.00	1.08	-------	4.57	4.00	4.57	------	43 50	751
4.52	0.88	0.82	9.45	-------	8.49	8.00	0.96	-------	*3.52	4.00	3.52	------	-------	76
4.79	2.01	1.64	9.31	9.00	8.84	8.00	0.47	1.00	*4.57	5.00	4.57	------	42 00	1233
4.43	1.72	1.64	9.76	9.00	8.58	8.00	1.18	1.00	5.71	5.00	5.71	------	-------	195
3.70	1.73	1.64	10.11	9.00	9.15	8.00	0.96	1.00	2.26	2.00	2.26	------	-------	789
3.97	1.90	1.65	10.16	8.50	8.82	8.00	1.34	0.50	10.39	10.00	10.39	------	56 00	678
4.46	2.00	1.65	9.58	8.50	8.74	8.00	0.84	0.50	10.71	10.00	10.71	------	62 45	701
5.40	1.73	1.65	10.01	8.50	8.29	8.00	1.72	0.50	4.84	5.00	4.84	------	53 00	696
3.37	1.83	1.65	9.61	8.50	8.93	8.00	0.68	0.50	4.98	5.00	4.98	------	48 00	271
7.17	1.83	1.65	9.56	8.50	8.72	8.00	0.84	0.50	5.05	5.00	5.05	------	-------	375
3.45	1.91	1.65	8.67	8.50	*7.78	8.00	0.89	0.50	5.65	5.00	5.05	------	45 00	1249
4.82	0.90	0.82	9.15	8.50	8.47	8.00	0.68	0.50	1.00	1.00	1.00	------	30 57	233
3.67	0.99	0.82	9.83	8.50	8.53	8.00	1.30	0.50	1.10	1.00	1.10	------	37 00	535
2.67	0.99	0.82	10.01	8.50	9.23	8.00	0.78	0.50	1.13	1.00	1.13	------	33 00	273
6.47	1.05	0.82	9.19	8.50	8.05	8.00	1.14	0.50	1.08	1.00	1.08	------	36 00	1189
4.28	1.73	1.65	8.91	8.50	8.57	8.00	0.34	0.50	2.27	2.00	2.27	------	37 82	234
2.57	1.81	1.65	9.88	8.50	8.94	8.00	0.94	0.50	2.07	2.00	2.07	------	37 25	986
6.51	1.85	1.65	9.70	8.50	8.40	8.00	1.30	0.50	2.00	2.00	2.00	------	40 00	1086
4.34	1.75	1.65	9.43	8.50	8.97	8.00	0.46	0.50	2.00	2.00	2.09	------	37 00	185
4.96	1.08	0.82	9.38	8.50	8.54	8.00	0.84	0.50	2.00	2.00	2.00	------	33 32	230
3.47	1.05	0.82	10.16	8.50	9.08	8.00	1.08	0.50	2.16	2.00	2.16	------	-------	330
3.80	2.08	1.65	10.68	8.50	9.56	8.00	1.12	0.50	3.43	3.00	3.43	------	43 00	663
3.54	1.79	1.65	9.76	8.50	9.34	8.00	0.42	0.50	2.97	3.00	2.97	------	39 00	183
4.46	1.79	1.65	9.01	8.50	8.09	8.00	0.92	0.50	3.13	3.00	3.13	------	45 00	56
4.01	1.70	1.65	7.11	6.50	6.69	6.00	0.42	0 50	3.04	3.00	3.04	------	38 57	232
2.55	1.60	1.65	7.56	6.50	7.00	6.00	0.56	0.50	3.07	3.00	3.07	------	43 00	274
5.90	1.65	1.65	7.60	6.50	6.62	6.00	0.98	0.50	*2.78	3.00	2.78	------	44 00	146
5.29	0.94	0.82	10.65	9.50	9.49	9.00	1.16	0.50	3.14	------	3.14	------	45 00	692
4.50	1.88	1.65	13.20	12.50	12.64	12.00	0.56	0.50	2.11	2.00	2.11	------	49 00	681
4.09	1.75	1.65	14.09	12.50	12.95	12.00	1.14	0.50	2.28	2.00	2.28	------	44 00	1134
4.36	1.74	1.65	14.97	12.50	13.45	12.00	1.52	0.50	2.79	2.00	2.79	------	50 00	780
2.85	1.05	0.82	9.62	8.50	8.40	8.00	1.22	0.50	3.43	3.00	3.43	------	30 00	184
7.87	1.03	0.82	9.17	8.50	8.35	8.00	0.82	0.50	2.97	3.00	2.97	------	34 32	239
2.49	1.05	0.82	9.25	8.50	8.36	8.00	0.89	0.50	3.03	3.00	3.03	------	35 00	1250
3.14	1.04	0.82	10.66	8.00	8.60	7.00	2.06	1.00	1.07	1.00	1.07	------	38 75	563
3.66	1.46	1.03	11.18	9.50	10.18	9.00	1.00	0.50	1.31	1.00	0.50	0.81	-------	47
4.92	2.16	2.00	18.82	14.00	*10.85	13.75	7.97	0.25	6.01	5.00	6.01	------	40 00	1033

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*Deficient.

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	M. L. SHOEMAKER & CO., INC., PHILADELPHIA, PA.	
796	Swift-Sure For Oats,	Abraham Palsgrove, Friedensburg,
795	Swift-Sure Guano Tomatoes, Truck & Corn,	Abraham Palsgrove, Friedensburg,
768	Swift-Sure Guano Tomatoes, Truck & Corn,	Stephen M. Stoltzfus, Morgantown,
	SWIFT & COMPANY, BALTIMORE, MD.	
1129	Diamond "C" Fertilizer 2-8-4,	Eulalia Milling Co., Coudersport,
623	Swift's Champion Wheat & Corn Grower,	E. B. Fritz & Sons Co., Quarryville,
753	Swift's Early Truck Grower 4-8-5,	Adam Schmehl, North Wales,
973	Swift's Golden Grain Grower,	S. G. Updegraff & Son, Williamsport,
976	Swift's Grain Fertilizer 1-8-2,	Repard & Coolidge, Jersey Shore,
1180	Swift's Grain Fertilizer 1-8-2,	H. L. Stultz & Brother, Altoona,
624	Swift's Red Steer 2-8-2,	E. B. Fritz & Sons Co., Quarryville,
1097	Swift's Red Steer 2-8-2,	Granville Mercantile Co., Granville Summit.
207	Swift's Reliable Grain Fertilizer,	H. F. Gump & Son, Everett,
971	Swift's Reliable Grain Fertilizer,	S. G. Updegraff & Son, Williamsport,
935	Swift's Special Wheat Grower 1-8-4,	H. S. Lockwood, S. Cannon,
972	Swift's Special Wheat Grower 1-8-4,	S. G. Updegraff & Son, Williamsport,
1235	Swift's Standard Potato Fertilizer,	M. H. Van Ness, Rummerfield,
1042	Swift's Truck Grower,	D. A. Osborn, Stoneboro,
	I. P. THOMAS & SON COMPANY, PHILADELPHIA, PA.	
8	Champion Guano 2-10-4,	D. L. Hertzler, Mechanicsburg,
51	Champion Guano 2-10-4,	Monroe A. Weike, Kleinfeltersville,
125	Farmers Choice 2-12-2,	Ferree Crossman, Parkesburg,
1213	Farmers Choice 2-12-2,	Clarence Hartzell, Bangor,
1188	General Use Fertilizer 2-8-2,	T. O. Bachman, Hellertown,
52	General Use Fertilizer 2-8-2,	Monroe A. Weike, Kleinfeltersville,
547	Grain Special Fertilizer 1-8-2,	Cassidy & Barber, Burgettstown,
822	Grain Special Fertilizer 1-8-2,	James Herman, Nescopeck,
546	Superior Super Phosphate 1-7-1,	Cassidy & Barber, Burgettstown,
39	Superior Super Phosphate 1-7-1,	A. G. Coble, Palmyra,
123	Tip Top Super Phosphate 3-8-4,	Ferree Crossman, Parkesburg,
40	Truckers High Grade Guano 4-8-4,	A. G. Coble, Palmyra,
	F. W. TUNNELL & COMPANY, INC., PHILADELPHIA, PA.	
413	Red Diamond High Grade Potato Manure,	Edw. W. Brinton & Son, West Chester,
416	Tobacco Special,	M. C. Michiner, Media,
410	Veribest Cereal Manure,	Edw. W. Brinton & Son, West Chester
	UNITED STATES GUANO CO., BALTIMORE, MD.	
460	Standard United States Keystone Brand,	Somerset County Grange, Somerset,
461	Standard United States Keystone Brand,	Somerset County Grange, Somerset,
525	Standard United States Keystone Brand,	Somerset County Grange, Somerset,
528	United States Big 4 Grower,	Somerset County Grange, Somerset,
		Roy Fletcher, Everett,
	VIRGINIA-CAROLINA CHEMICAL COMPANY OF DELAWARE, BALTIMORE, MD. NEW YORK, N. Y.	
208	V. C. Champion Manure,	Frisbee Hardware Co., Connellsville,
477	V. C. Champion Manure,	Chester County Association of Farmers, Kelton.
126	V. C. Fish and Potash Mixture,	
478	V. C. Fish and Potash Mixture,	Frisbee Hardware Co., Connellsville,
784	V. C. Owl Brand,	Victor Solt, Lehighton,
572	V. C. Special Compound,	W. S. Minion, Meadville,
	WASHINGTON, ALEXANDER & COOKE CO., CHARLES TOWN, W. VA.	
509	Wacco Crop Grower,	E. S. Kelly, Gettysburg,
336	Wacco Wheat Corn and Oats Mixture,	Edward Nipple, Walnut,

FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
7.49	1.25	0.82	13.08	13.00	11.64	11.00	1.44	2.00	3.11	2.00	3.11	------	-------	796
8.80	1.72	1.64	13.34	12.00	11.54	10.00	1.80	2.00	2.36	2.00	2.36	------	-------	795
10.45	2.13	1.64	13.20	12.00	11.08	10.00	2.12	2.00	2.54	2.00	2.54	------	45 00	768
5.27	1.81	1.65	8.96	8.00	8.80	8.00	0.16	-------	4.28	4.00	4.28	------	44 00	1129
7.89	1.94	1.65	13.08	12.00	12.90	12.00	0.18	-------	2.18	2.00	2.18	------	34 00	623
4.22	3.52	3.28	9.66	8.00	8.76	8.00	0.90	-------	5.00	5.00	5.00	------	50 00	753
3.28	1.76	1.65	8.50	8.00	8.06	8.00	0.44	-------	5.37	5.00	5.37	------	46 00	973
1.16	0.84	0.82	8.14	8.00	7.96	8.00	0.18	-------	2.47	2 00	2.47	------	36 00	976
3.62	0.93	0.82	9.49	8.00	9.08	8.00	0.41	-------	2.00	2.00	2.00	------	36 00	1180
2.92	1.57	1.65	8.92	8.00	8.78	8.00	0.14	-------	2.79	2.00	------	2.79	36 00	624
6.12	2.03	1.65	8.63	9.00	8.50	8.00	0.13	1.00	*1.75	2.00	1.75	------	34 00	1097
5.56	1.04	0.82	8.50	8.00	8.36	8.00	0.14	-------	1.36	1.00	1.36	------	34 00	207
2.60	1.05	0.82	8.98	8.00	8.68	8.00	0.30	-------	1.43	1.00	1.43	------	30 00	971
4.34	1.05	0.82	8.73	8.00	8.27	8.00	0.46	-------	3.89	4.00	3.89	------	43 00	935
2.45	0.92	0.82	8.60	8.00	8.32	8.00	0.28	-------	4.09	4.00	4.09	------	38 00	972
3.02	1.74	1.65	6.89	-------	*6.79	8.00	0.10	-------	3.18	3.00	3.18	------	50 00	1235
5.88	1.01	0.82	9.91	9.00	9.45	9.00	0.46	-------	4.78	4.00	4.78	------	41 00	1042
8.96	1.85	1.65	11.24	10.50	10.30	10.00	0.94	0.50	4.23	4.00	4.23	------	43 50	8
6.14	1.67	1.65	11.75	10.50	10.87	10.00	0.88	0.50	4.29	4.00	4.29	------	47 00	51
10.80	1.73	1.65	13.86	12.50	13.04	12.00	0.82	0.50	2.43	2.00	2.43	------	40 00	125
10.36	1.73	1.65	14.24	12.50	13.47	12.00	0.77	0.50	2.02	2.00	2.02	------	38 00	1213
10.08	1.88	1.65	10.20	8.50	9.57	8.00	0.63	0.50	2.28	2.00	2.28	------	40 00	1188
9.08	1.72	1.65	9.58	8.50	8.90	8.00	0.68	0.59	2.44	2.00	2.44	------	39 00	52
3.70	1.00	0.82	9.64	8.50	8.90	8.00	0.74	0.50	1.92	2.00	1.92	------	38 00	547
5.22	0.98	0.82	9.69	8.50	8.93	8.00	0.76	0.50	2.81	2.00	2.81	------	31 50	822
3.03	1.00	0.82	9.44	7.50	8.16	7.00	1.28	0.50	1.17	1.00	1.17	------	35 00	546
4.32	1.24	0.82	8.72	7.50	7.82	7.00	0.90	0.50	1.53	1.00	1.53	------	-------	39
6.37	2.38	2.45	9.52	8.50	8.56	8.00	0.96	0.50	4.03	4.00	4.03	------	46 00	123
6.88	3.61	3.25	9.99	8.50	9.17	8.00	0.82	0.50	4.03	4.00	4.03	------	-------	40
6.39	3.41	3.30	11.30	9.00	9.02	8.00	2.28	1.00	5.46	5.00	5.46	------	60 00	413
8.39	3.96	3.30	10.85	9.00	8.79	8.00	2.06	1.00	2.35	2.00	2.35	------	54 00	416
3.02	1.78	1.64	16.87	-------	9.19	8.00	1.68	-------	4.89	4.00	4.89	------	48 00	410
6.29	1.28	0.82	10.49	8.50	8.21	8.00	2.28	0.50	2.30	2.00	2.30	------	26 25	460
8.16	1.15	0.82	10.87	8.50	9.15	8.00	1.72	0.50	2.40	2.00	2.40	------	26 25	461
7.77	0.97	0.82	10.10	8.50	8.26	8.00	1.84	0.50	*1.79	2.00	1.79	------	-------	525
5.55	3.52	3.29	10.14	8.50	8.14	8.00	2.00	0.50	5.71	5.00	5.71	------	36 50	528
9.66	0.53	0.41	9.42	9.00	8.20	8.00	1.22	1.00	1.18	1.00	1.18	------	28 00	208
4.68	0.65	0.41	10.66	9.00	9.18	8.00	1.48	1.00	1.21	1.00	1.21	------	45 00	477
6.84	1.99	1.65	9.95	9.00	8.15	8.00	1.80	1.00	3.68	3.00	3.68	------	37 35	126
6.47	2.20	1.65	11.00	9.00	8.60	8.00	2.40	1.00	3.02	3.00	3.02	------	55 00	478
7.71	2.20	1.65	9.06	9.00	8.54	8.00	0.52	1.00	3.60	3.00	3.60	------	-------	784
8.49	1.00	0.82	9.84	9.00	8.72	8.00	1.12	1.00	0.95	1.00	0.95	------	29 50	572
4.92	1.68	1.65	10.37	9.00	8.81	8.00	1.56	1.00	5.04	5.00	5.04	------	38 00	509
4.77	0.70	0.41	10.20	9.00	9.00	8.00	1.20	1.00	1.60	1.00	1.60	------	29 00	898

*Deficient.

TABLE I.—COMPLETE

	Name of Manufacturer and Brand.	Sample Taken From—
	YORK CHEMICAL WORKS, YORK, PA.	
191	Dempwolf's Grain Special,	E. A. Beck, Lehighton,
746	Dempwolf's Grain Special,	Fisher & Molan, Aldham,
253	Dempwolf's Grain Special,	Irvin Robbins, Benton,
72	Dempwolf's One-Eight-One,	Clarence Maurer, Rough & Ready,
252	Dempwolf's One-Eight-One,	Irvin Robbins, Benton,
1166	Dempwolf's One-Eight-One,	Wallace Sherbine, Wilmore,
249	Dempwolf's One-Eight-Two,	J. S. Lockard, Millville,
906	Dempwolf's One-Eight-Two,	J. H. Summy, Landesville,
381	Dempwolf's Plow Brand,	H. A. Brubaker, Manheim,
77	Dempwolf's Potato & Truck,	Felix Herb, Pitman,
712	Dempwolf's Potato & Truck,	Mowrey-Latshaw Hardware Co., Spring City.
913	Dempwolf's Royal Mixture,	Brown & Rea, Quarryville,
828	Dempwolf's Spring Special,	Frank Lindner, Ringtown,
745	Dempwolf's Standard,	Fisher & Nolan, Aldham,
1165	Dempwolf's Standard,	Wallace Sherbine, Wilmore,
186	Dempwolf's Standard,	H. H. Sloat, Weatherly,
70	Dempwolf's Standard Potash,	Clarence Maurer, Rough & Ready,
93	Dempwolf's Standard Potash,	Harry Pyle & Sons, Chadds Ford Junction.
		Average,

FERTILIZERS—Concluded.

	NITROGEN.		PHOSPHORIC ACID.						POTASH.					
			Total.		Available.		Insoluble.							
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	%	%	%	%	%	%	$	
8.77	1.73	------	14.07	-------	13.11	12.00	0.96	-------	2.06	2.00	2.06	------	42 00	191
9.92	1.88	------	12.18	-------	*11.35	12.00	0.83	-------	2.19	2.00	2.19	------	41 00	746
1.49	1.85	------	13.00	-------	12.32	12.00	0.68	-------	2.02	2.00	2.02	------	-------	253
5.64	0.91	------	9.29	-------	8.59	8.00	0.70	-------	1.22	1.00	1.22	------	27 00	72
8.78	0.95	------	9.38	-------	8.70	8.00	0.68	-------	1.60	1.00	1.60	------	-------	252
7.85	0.81	------	8.84	-------	8.06	8.00	0.78	-------	1.18	1.00	1.18	------	42 00	1166
8.23	1.10	------	9.30	-------	8.58	8.00	0.72	-------	2.31	2.00	2.31	------	30 25	249
4.43	0.94	------	9.82	-------	9.00	8.00	0.82	-------	2,43	2.00	2.43	------	35 00	906
6.76	1.67	------	9.55	-------	9.05	8.00	0.50	-------	2.03	2.00	2.03	------	39 15	381
7.51	4.16	------	9.25	-------	8.46	8.06	0.79	-------	7.36	7.00	6.20	1.16	62 00	77
8.90	4.10	------	7.97	-------	*7.13	8.00	0.84	-------	7.20	7.00	6.40	0.80	72 00	712
4.02	1.80	1.65	12.32	-------	11.76	10.00	0.56	-------	3.87	4.00	3.87	------	43 95	913
9.44	3.64	------	11.05	-------	10.35	10.00	0.70	-------	4.54	4.00	1.70	2.84	-------	828
5.17	1.70	------	8.16	-------	*7.20	8.00	0.96	-------	5.41	5.00	5.41	------	45 00	745
4.48	1.73	------	8.10	-------	*7.17	8.00	0.92	-------	5.79	5.00	5.79	------	58 00	1165
6.39	1.65	------	9.07	-------	8.53	8.00	0.54	-------	5.14	5.00	5.14	------	52 00	186
6.74	1.00	------	9.80	-------	9.04	8.00	0.76	-------	4.06	4.00	4.06	------	-------	70
9.21	0.98	------	8.90	-------	8.02	8.00	0.88	-------	4.08	4.00	4.08	------	39 00	93
5.45	1.47	------	10.12	-------	8.95	-------	1.17	-------	2.83	------	------	------	$39 36	-----

* Deficient.

TABLE II—NITROGEN AND PHOS-
Including Dissolved Bones

Chemist Number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
1240	Ammoniated Fertilizer A,	C. E. Drake, Towanada,
609	Ammoniated Fertilizer AA,	John Greenleaf, Quarryville,
510	Ammoniated Fertilizer AA,	G. R. Thompson & Son, Gettysburg,
106	Ammoniated Fertilizer AA,	Harry Wilson, Frazer,
109	Ammoniated Fertilizer AAA,	H. P. Passmore & Brother, Oxford,
300	Ammoniated Fertilizer AAA,	Oscar Van Buskirk, Bald Mount,
669	Ammoniated Fertilizer AAA,	B. Vansickel, Cortez,
305	Ammoniated Fertilizer AAAA,	Oscar Van Buskirk, Bald Mount,
671	Ammoniated Fertilizer AAAA,	B. Vansickel, Cortez,
1101	Bradley's Economy Fertilizer,	J. H. Campbell, Burlington,
978	Bradley's Economy Fertilizer,	Fish & Meachan, Coudersport,
283	Bradley's Economy Fertilizer,	W. H. Swartz, Madisonville,
1084	Bradley's Golden Crop Compound,	E. H. Johnston, Ulster,
284	Bradley's Special Superior Compound,	W. H. Swartz, Madisonville,
1154	Crocker's Farmers Choice,	Gibson-Clark Co., Indiana,
944	Crocker's Special Grain Grower,	Union Coal & Supply Co., Union City.
880	Lundlam's Hono Manura,	Claude Davis, Winlber,
25	Ludlum's Sickle Fertilizer No. 1,	Curtis Bushey, Clear Springs,
882	Ludlum's Sickle Fertilizer No. 1,	Claude Davis, Windber,
26	Ludlum's Sickle Fertilizer No. 2,	Curtis Bushey, Clear Springs,
1068	Milson's Special Phosphate,	W. A. Bright, Greenville,
1199	Nassu Buckwheat Special,	Ira Bergstresser, Ottsville,
643	Nassau Common Sense Fertilizer Revised,	William B. Barnitz, Carlisle,
637	Nassau Old Hickory Revised,	William B. Barnitz, Carlisle,
15	Pollock's Ammoniated Fertilizer A,	Geo. A. Dick, Dillsburg,
320	Pollock's Ammoniated Fertilizer AA,	Centre County Farmers Cooperative Association, State College.
27	Pollock's Ammoniated Fertilizer AA,	Geo. A. Dick, Dillsburg,
200	Pollock's Our Brand Guano,	John L. Bortz, Bedford,
227	Soluble Grain Mixture,	The Kase Store, Riverside,
435	J. E. Tygert's Ammoniated Fertilizer AA,	O. M. Lumis, Uwchland,
120	Whann's Chester Valley Liberty Brand Super-Phosphate AA,	E. H. Keen & Son, Parkesburg,
358	Wheeler's Ammoniated Corn Phosphate,	Torrence A. DeLong, Loganton,
359	Wheeler's Success Fertilizer,	Torrence A. DeLong, Loganton,
216	Woolridge's General Crop Grower,	Cyrus Brumbaugh, New Enterprise,
198	Woolridge's General Crop Grower,	John A. Crilly, Imler,
19	Woolridge's Success Fertilizer,	Robert Wentz, Wellsville,
	THE AMERICAN AGRICULTURAL CHEMICAL CO. OF NEW JERSEY, LISTERS NEWARK, N. J. AGRICULTURAL CHEMICAL WORKS,	
1002	Lister's Plant Food 1916,	Cleve H. Enngard, Spring Mills,
970	Lister's Plant Food 1916,	Freys Hardware Muncy,
69	Lister's Soil Improver,	J. C. Boyer, Pillow,
901	Lister's Soil Improver,	Millersville Supply Co., Millersville,
514	Lister's Soil Improver,	E. J. Rupp, Sunbury,
	AMERICAN FERTILIZING COMPANY, BALTIMORE, MD.	
905	American Fish Special,	J. H. Summy, Landesville,
432	American Special Fish Guano,	A. K. Kulp, Pottstown,
	ARMOUR FERTILIZER WORKS, BALTIMORE, MD.	
1252	Armour's Ammoniated Phosphate,	O. P. Beebe, Montrose,
579	Armour's Ammoniated Phosphate,	W. D. Ripley, Wesleyville,
1023	Armour's Big Crop, 2-12-0,	Petersburg Grain, Feed & Supply Co., Petersburg.

PHORIC ACID FERTILIZERS,
And Other Like Products.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
5.43	1.39	0.82	10.33	11.00	*9.26	10.00	1.07	1.00	26 00	1240
3.29	1.70	1.65	12.31	11.00	11.39	10.00	0.92	1.00	31 00	609
4.39	1.94	1.65	12.42	11.00	10.96	10.00	1.46	1.00	32 00	510
3.57	1.85	1.65	12.00	11.00	10.50	10.00	1.50	1.00	35 00	106
5.97	2.60	2.47	10.91	11.00	10.17	10.00	0.74	1.00	38 00	109
4.17	2.75	2.47	13.36	11.00	11.42	10.00	1.94	1.00	41 50	300
3.82	2.60	2.47	13.15	11.00	11.07	10.00	2.08	1.00	41 00	669
2.78	3.21	3.29	13.21	11.00	11.51	10.00	1.70	1.00	46 00	305
5.62	3.97	3.29	13.03	11.00	11.75	10.00	1.28	1.00	40 00	671
2.93	1.03	0.82	12.26	11.00	11.22	10.00	1.04	1.00	32 00	1101
1.37	1.01	0.82	12.21	11.00	10.67	10.00	1.54	1.00	---------	978
3.75	1.03	0.82	12.38	11.00	11.02	10.00	1.36	1.00	29 00	283
3.32	2.52	2.47	12.84	11.00	10.96	10.00	1.88	1.00	47 00	1084
4.61	1.90	1.65	12.84	11.00	11.34	10.00	1.50	1.00	30 00	284
1.72	1.20	0.82	12.20	11.00	10.58	10.00	1.62	1.00	31 00	1154
1.09	1.74	1.65	12.61	11.00	10.67	10.00	1.94	1.00	34 00	944
4.24	0.85	0.82	9.38	9.00	8.48	8.00	0.90	1.00	33 00	880
6.54	0.93	0.82	11.60	11.00	10.56	10.00	1.04	1.00	---------	25
6.28	0.82	0.82	11.42	11.00	10.42	10.00	1.00	1.00	35 00	882
7.45	1.75	1.65	11.26	11.00	10.62	10.00	0.64	1.00	---------	26
2.12	0.94	0.82	12.50	11.00	10.78	10.00	1.72	1.00	---------	1068
2.09	0.92	0.82	10.72	9.00	9.79	8.00	0.93	1.00	33 50	1199
6.71	1.94	1.65	12.40	11.00	10.70	10.00	1.70	1.00	36 00	643
6.15	0.95	0.82	12.27	11.00	11.19	10.00	1.08	1.00	31 50	637
6.32	1.04	0.82	11.69	11.00	10.63	10.00	1.06	1.00	---------	15
1.61	2.03	1.65	12.46	11.00	11.88	10.00	0.58	1.00	26 00	320
4.75	1.84	1.65	11.66	11.00	10.59	10.00	1.07	1.00	---------	27
7.22	1.15	0.82	9.96	9.00	8.60	8.00	1.36	1.00	---------	200
2.17	0.90	0.82	9.84	9.00	9.06	8.00	0.78	1.00	22.00	227
5.30	1.88	1.65	12.19	11.00	10.91	10.00	1.28	1.00	35 00	435
6.74	1.70	1.65	11.53	11.00	10.23	10.00	1.30	1.00	30 50	120
1.77	2.14	1.65	12.24	11.00	11.60	10.00	0.64	1.00	38 00	358
7.28	2.87	2.47	11.90	11.00	10.88	10.00	1.02	1.00	42 34	359
1.99	0.97	0.82	9.24	9.00	8.02	8.00	1.22	1.00	---------	216
4.93	0.96	0.82	9.94	9.00	9.08	8.00	0.86	1.00	30 00	198
6.41	1.00	0.82	11.74	11.00	10.66	10.00	1.08	1.00	---------	19
5.55	0.85	0.82	12.95	11.00	11.67	10.00	1.28	1.00	33.00	1002
2.12	1.07	0.82	11.55	11.00	10.13	10.00	1.42	1.00	---------	970
2.28	0.88	0.82	9.06	9.00	8.18	8.00	0.88	1.00	---------	69
1.74	1.07	0.82	9.74	9.00	8.66	8.00	1.08	1.00	30 00	901
6.10	1.05	0.82	9.98	9.00	8.90	8.00	1.08	1.00	28 00	514
3.90	1.89	1.65	15.46	12.00	12.18	11.00	3.28	1.00	36 00	905
2.76	1.07	0.82	13.07	11.00	11.45	10.00	1.62	1.00	34 00	432
2.97	1.19	0.82	10.99	10.50	10.26	10.00	0.73	0.50	---------	1252
1.62	0.99	0.82	11.08	10.50	10.68	10.00	0.40	0.50	37 00	579
3.74	1.95	1.65	13.19	12.50	12.07	12.00	1.12	0.50	37 50	1023

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*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
296	Armour's Big Crop Fertilizer, 4-10-0,	Summit Lumber Co., Clark Summit,
842	Armour's Grain Special,	B. F. Harting, Newport,
1056	Armour's Grain Special,	Smith & Logan, Cabot,
295	Armour's Grain Special,	Summit Lumber Co., Clark Summit,
426	Tuscarora Big Chief,	A. F. Leidy, Delphi,
425	Tuscarora Grain Special,	A. F. Leidy, Delphi,
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
1161	Baugh's Corn and Oats Fertilizer,	Edwards Hardware Co., Ebensburg,
101	Baugh's Corn and Oats Fertilizer,	Fisher & Nolan, Malvern,
265	Baugh's Corn and Oats Fertilizer,	H. B. Low & Son, Orangeville,
928	Baugh's Corn and Oats Fertilizer,	F. R. Varcol, Waymarth.
441	Baugh's Half and Half Mixture,	Bunting Brothers, Oxford,
226	Baugh's Peninsula Grain Producer,	Boettinger & Wargo, Danville,
690	Baugh's Peninsula Grain Producer,	E. B. Fritz & Sons Co., Quarryville,
929	Baugh's Peninsula Grain Producer,	F. R. Varcol, Waymarth,
331	Baugh's The Old Stand-by Dissolved Animal Base,	Homer Decker, Bellefonte,
99	Baugh's The Old Stand-by Dissolved Animal Base,	Fisher & Nolan, Malvern,
927	Baugh's Truckers Favorite,	F. R. Varcol, Waymarth,
	BOWKER FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
645	Bowker's Ammoniated O. I. O. Phosphate,	Jacob Fleisher, Shermansdale,
607	Bowker's Superphosphate with Ammonia 1%	Jones Brothers, Jackson Center,
924	Bowker's Superphosphate with Ammonia 2%	J. B. Dymond, Waymarth,
316	Bowker's Superphosphate with Ammonia 2%	A. E. Seamons, Factoryville,
	THE BRYANT FERTILIZER COMPANY, ALEXANDRIA, VA.	
596	Bryant's Ammoniated Super Phosphate,	S. Leroy Tuttle, Franklin,
	THE CENTRAL CHEMICAL COMPANY, HAGERSTOWN, MD.	
1204	Acme Brand,	Wm. J. Buzzard, Walnutport,
506	Dissolved Bone Compound,	J. W. Hartman, Greencastle,
1176	Fish Compound,	M. R. Brumbaugh, Martinsburg,
465	Fish Compound,	Lloyd Peck, Meyersdale,
1114	Gro-All Acme Brand,	N. G. Adams, Paxinos,
1175	Pride of The Valley,	M. R. Brumbaugh, Martinsburg,
1203	Pride of The Valley,	Wm. J. Buzzard, Walnutport,
466	Superior,	Lloyd Peck, Myersdale,
4	Superiior,	E. W. Rupp, Shiremanstown,
	THE COE-MORTIMER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N Y.	
310	E. Frank Coe's XXV Ammoniated Phosphate,	Abington Lumber Co., Dalton,
769	E. Frank Coe's XXV Ammoniated Phosphate,	J. K. Mast, Elverson,
317	E. Frank Coe's XXV Ammoniated Phosphate,	P. S. Muma, Mifflintown,
313	E. Frank Coe's Original Ammoniated Dissolved Phosphate 1916,	Abington Lumber Co., Dalton,
343	E. Frank Coe's Original Ammoniated Dissolved Phosphate 1916,	Henry S. Brown, Cocolamus,
1110	E. Frank Coe's Prolific Crop Producer 1916,	I. W. Scott & Co., Pittsburgh,

PORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
6.38	3.30	3.29	11.74	10.50	10.64	10.00	1.10	0.50	41.00	236
5.74	1.85	1.65	11.34	10.50	10.40	10.00	0.94	0.50	31 00	842
8.92	1.84	1.65	12.95	10.50	11.65	10.00	1.30	0.50	43 50	1056
2.34	1.86	1.65	12.60	10.50	11.20	10.00	1.40	0.50	31 00	295
2.99	1.00	0.82	11.60	10.50	10.18	10.00	1.42	0.50	34 00	426
2.94	1.85	1.65	11.36	10.50	10.06	10.00	1.30	0.50	38 00	425
7.23	1.80	1.65	12.50	---------	*9.06	10.00	3.44	---------	36 50	1161
1.89	1.65	1.65	10.85	10.00	*9.69	10.00	1.16	---------	34 00	101
8.46	1.72	1.65	12.33	---------	10.75	10.00	1.58	---------	32 00	265
2.67	1.94	1.65	12.28	10.00	11.32	10.00	0.96	---------	42 00	928
3.06	1.59	1.23	18.05	17.00	*10.88	12.00	7.17	5.00	39 00	441
3.25	0.84	0.82	10.52	---------	8.89	9.00	1.63	---------	29 00	226
3.45	1.01	0.82	10.14	9.00	9.00	9.00	1.14	---------	28 00	630
3.53	1.00	0.82	11.09	9.00	10.17	9.00	0.92	---------	42 00	929
4.36	1.88	1.65	14.21	---------	12.73	12.00	1.48	---------	37 50	331
3.40	1.84	1.65	13.49	12.00	12.55	12.00	0.94	---------	35 00	99
1.29	2.69	2.47	11.92	10.00	10.96	10.00	0.96	---------	45 00	927
2.46	1.00	0.82	10.78	9.00	8.68	8.00	2.10	1.00	---------	645
2.91	1.11	0.82	12.20	11.00	10.40	10.00	1.89	1.00	37 50	607
3.82	1.83	1.65	11.86	11.00	*9.28	10.00	2.48	1.00	42 00	924
3.84	1.81	1.65	13.04	11.00	11.10	10.00	1.94	1.00	37 25	216
1.40	2.72	2.47	15 26	13.00	13.90	12.00	1.36	1.00	45 00	566
2.39	0.92	0.82	10.26	---------	8.95	8.00	1.31	---------	29 00	1204
7.32	1.80	1.85	14.21	---------	13.01	13.00	1.20	---------	33 50	506
6.43	1.40	1.25	11.68	---------	10.54	10.00	1.14	---------	38 00	1173
6.99	1.45	1.25	12.09	---------	10.43	10.00	1.66	---------	32 50	465
5.26	0.90	0.82	9.36	---------	8.44	8.00	0.92	---------	31 00	1114
3.28	0.90	0.82	11.48	---------	10.50	10.00	0.98	---------	34 00	1175
5.79	1.01	0.82	11.07	---------	10.20	10.00	0.87	---------	31 00	1203
8.41	1.32	0.82	14.22	---------	13.36	12.00	0.86	---------	32 00	466
7.64	1.30	0.82	13.25	---------	12.15	12.00	0.10	---------	33 00	4
3.20	1.23	0.82	12.38	11.00	11.06	10.00	1.32	1.00	35 00	310
4.08	0.82	0.82	10.01	11.00	*9.01	10.00	1.00	1.00	---------	769
2.60	0.95	0.82	12.67	11.00	11.71	10.00	0.96	1.00	---------	317
4.42	1.85	1.65	12.81	11.00	11.79	10.00	1.02	1.00	39 00	313
5.22	1.86	1.65	12.22	11.00	11.24	10.00	0.98	1.00	31 33	343
10.63	3.28	3.23	11.06	11.00	10.00	10.00	1.06	1.00	57 00	1110

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* Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE JAS. G. DOWNWARD CO., COATESVILLE, PA.	
102	Ammoniated Phosphate,	Morris S. Bailey, Malvern,
914	Ammoniated Phosphate,	Brown & Rea, Quarryville,
33	Ammoniated Phosphate,	A. G. Lehman, Palmyra,
	THE ERIE REDUCTION CO., ERIE, PA.	
578	Acidulated Fish Special,	W. D. Ripley, Wesleyville,
	FARMERS FERTILIZER WORKS, ELIZABETHTOWN, PA.	
840	Farmers Golden Sheaf,	B. F. Horting, Newport,
340	Farmers Top Dressing,	O. E. Rumberger, Thompsontown,
382	Grain & Grass Special,	H. H. Martin, Manheim,
	JOSEPH R. GAWTHROP, KENNETT SQUARE, PA.	
84	Ammoniated Special Phosphate for Corn Oats and Wheat,	Joseph R. Gawthrop, Kennett Square,
	GRIFFITH & BOYD CO., BALTIMORE, MD.	
648	Griffith & Boyd Co.'s Cereal Mixture,	Geo. A. Wolf & Sons, Mt. Wolf,
969	Griffith & Boyd Co.'s Farmers Gem,	J. S. Artley, Muncy,
85	Griffith & Boyd Co's Farmers Mixture,	John Haverstick, Oxford,
568	Griffith & Boyd Co.'s Fish and Blood Mixture,	H. W. Daniels, Sagertown,
87	Griffith & Boyd Co.' Fish and Blood Mixture,	John Haverstiick, Oxford,
540	Griffith & Boyd Co.' Fish and Blood Mixture,	Peacock Brothers, Houston,
403	Griffith & Boyd Co.'s Peerless Mixture,	S. K. Chambers & Brother, Elkview,
1053	Griffith & Boyd Co.'s Peerless Mixture,	Wm. Gates Estate, Kittanning,
1005	Griffith & Boyd Co.'s Peerless Mixture,	H. S. Limbert, Centre Hall,
335	Griffith & Boyd Co.'s Special Fish Mixture.	John Hostettler, Walnut,
	S. M. HESS & BROTHER, INC., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., PHILADELPHIA, PA.	
486	Ammoniated Grain Grower,	T. G. Hager, Farmington,
429	Ammoniated Grain Grower,	J. M. Hiltebeital, Green Lane,
351	Ammoniated Grain Grower,	H. M. Stomm, Loganton,
	THE HUBBARD FERTILIZER COMPANY, BALTIMORE, MD.	
1244	Hubbard's Columbia Phosphate,	P. H. Quinn, Dushore,
599	Hubbard's Excelsior Mixture,	Clyde D. Duffee, Oil City,
	KEYSTONE BONE FERTILIZER CO., PHILADELPHIA, PA.	
811	Keystone Economy Grain Compound,	Fred S. Nester, New Ringold,
	LANCASTER CHEMICAL COMPANY, LANCASTER, PA.	
618	No. 11 Keystone Brand,	Ross C. Collins, Quarryville,
619	No. 14 Wheat & Grass,	Ross C. Collins Quarryville,
980	No. 14 Wheat & Grass,	F. E. Neafe & Company, Coudersport,
	LEBANON FERTILIZER WORKS, LEBANON, PA.	
377	Levan's Ammoniated Super Phosphate,	Emanuel Merkey, Myerstown,
38	Levan's Farmers Crop Grower,	E. P. Backestow, Palmyra,
36	Levan's Farmers Mixture,	E. P. Backestow, Palmyra,

PHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
3.73	1.65	0.82	9.09	11.00	*8.33	10.00	0.76	1.00	36 00	102
3.05	0.90	0.82	8.74	11.00	*8.02	10.00	0.72	1.00	31 00	914
3.04	1.13	0.82	10.04	11.00	*9.29	10.00	0.75	1.00	32 00	33
1.96	1.05	1.03	11.99	11.50	*8.67	9.50	3.32	2.00	34 00	578
13.74	1.71	1.65	11.98	11.00	11.20	10.00	0.78	1.00	31 00	840
4.40	7.50	7.38	10.40	--------	7.38	6.00	3.02	1.00	59 00	340
3.92	0.95	0.82	12.37	11.00	11.07	10.00	1.30	1.00	32 30	382
4.82	1.75	1.00	8.43	7.00	8.25	6.00	0.18	1.00	32 00	84
6.56	0.95	0.82	10.14	--------	9.36	8.00	0.78	--------	29 00	648
4.87	1.00	0.82	11.48	--------	10.82	10.00	0.66	--------	33 00	969
6.38	1.70	1.65	10.22	--------	9.34	9.00	0.88	--------	33 75	85
6.35	1.48	1.44	8.95	--------	8.39	7.00	0.56	--------	36 00	568
4.83	1.52	1.44	8.36	--------	7.86	7.00	0.50	--------	30 75	87
5.21	1.68	1.44	9.57	--------	8.67	7.00	0.90	--------	36 50	540
1.98	0.60	0.41	10.08	--------	8.58	8.00	1.50	--------	30 00	403
1.79	0.73	0.41	11.09	--------	9.33	8.00	1.76	--------	30 00	1053
4.41	0.58	0.41	10.04	--------	8.96	8.00	1.08	--------	26 00	1005
4.32	1.56	1.23	11.72	--------	11.24	10.00	0.48	--------	--------	335
0.81	1.09	0.82	10.25	9.00	8.65	8.00	1.60	1.00	--------	486
2.68	1.15	0.82	8.29	9.00	*6.99	8.00	1.30	1.00	34 00	429
1.32	0.94	0.82	10.54	9.00	8.88	8.00	1.66	1.00	31 25	351
2.76	0.92	0.82	10.06	9.00	8.71	8.00	1.35	1.00	30 00	1244
4.77	1.98	1.64	12.18	11.00	11.26	10.00	0.92	1.00	29 00	599
3.15	1.28	0.82	11.67	10.00	9.67	9.00	2.00	1.00	32 00	811
7.45	0.74	0.82	10.52	9.00	9.40	8.00	1.12	1.00	27 00	618
3.27	0.99	--------	12.95	11.00	11.69	10.00	1.26	1.00	29 00	619
3.95	0.89	--------	12.95	--------	11.65	10.00	1.30	1.00	38 50	980
4.56	1.64	1.65	9.76	11.00	*9.08	10.00	0.68	1.00	35 75	377
4.41	1.09	6.82	9.49	9.00	9.09	8.00	0.40	1.00	28 00	38
4.05	1.08	0.82	11.22	11.00	10.88	10.00	0.34	1.00	30 00	36

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*Deficient.

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
902	Levan's Farmers Mixture,	Millersville Supply Co., Millersville,
32	Levan's Plow Brand,	G. G. Grubb, Palmyra,
805	Levan's Plow Brand,	Jno. Kunkle, Mahanoy City,
	THE MAPES FORMULA & PERUVIAN GUANO CO., NEW YORK, N. Y.	
418	The Mapes General Crop 1916 Brand,	Yeakel & Huzzard, Norristown,
	THE MARTIN FERTILIZER CO., PHILADELPHIA, PA.	
797	Martin's Crop Producer,	A. F. Kimmel, Orwigsburg,
	FRANK P. MILLER, SPRINGTOWN, PA.	
1195	Farmers Taxpayer,	Frank P. Miller, Springtown,
	THE MILLER FERTILIZER CO., BALTIMORE, MD.	
731	Millers No. 1 Special,	Miller Harkins, Hickory Hill,
	G. OBER & SONS COMPANY, BALTIMORE, MD.	
451	Ober's Electro Compound,	Henry S. Zook, Elverson,
783	Ober's Special Tobacco & Truck Guano,	Victor Solt, Lehighton,
511	Ober's Sun Beam Guano,	John M. Bloeher, Gettysburg,
452	Ober's Sun Beam Guano,	Henry S. Zook, Elverson,
	OYLER & SPANGLER FERTILIZER WORKS, INC., GETTYSBURG, PA.	
996	O. & S. Special,	M. J. Sheffer, Hanover,
	OXFORD PACKING WORKS, OXFORD, PA.	
445	O. P. W. No. 2,	Harry Miller, Collamer,
	PATAPSCO GUANO COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
543	Patapsco Ammoniated Compound,	Denny & Allison, Hickory,
342	Patapsco Ammoniated Compound,	C. W. Sausman, Thompsontown,
11	Patapsco Farmers Reliance,	Dillsburg Grain & Milling Co., Dillsburg,
855	Patapsco Farmers Reliance,	W. H. Snyder, Winfield,
504	Patapsco Golden Crop Fertilizer Revised,	Oscar Van Buskirk, Bald Mount,
	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.	
1045	Ideal Wheat & Corn Fertilizer,	Harmony Cereal Co., Harmony,
570	Piedmont Fish Tankage & Phosphate,	W. S. Minnion, Meadville,
	RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.	
334	Rasin's Special Fish Guano,	Walter Book, Port Royal,
115	Rasin's Special Fish Guano,	E. H. Keen & Son, Parkesburg,
264	Rasin's Special Fish Guano,	H. B. Low & Son, Orangeville,
263	Rasin's Special Fish Mixture,	H. B. Low & Son, Orangeville,
953	Rasin's Special Fish Mixture,	Leonard Ritter, St. Marys,
847	Rasin's Special Fish Mixture,	W. J. Weland, Milroy,
	READING BONE FERTILIZER CO., READING, PA.	
383	Animal Tankage Mixture,	Edwin Bohn, Reading,
400	Animal Tankage Mixture,	Preston F. Powell, West Grove,
1059	Dissolved Animal Matter,	Krause & Freehling, Marwood,
603	High Grade Truck Food,	John A. Magee Co., Clarion,
431	High Grade Truck Food,	Milton Schultz, Palm,

PHORIC ACID FERTILIZERS—Continued.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
2.67	0.90	0.82	11.60	11.00	10.14	10.00	0.46	1.00	22 00	902
5.15	1.62	1.65	14.09	13.00	13.33	12.00	0.76	1.00	35 50	32
9.57	1.67	1.65	13.77	13.00	12.89	12.00	0.88	1.00	30 00	805
4.42	1.75	1.65	11.12	10.00	8.54	8.00	2.58	2.00	40 00	418
4.50	1.79	----------	15.69	----------	13.57	10.00	2.12	----------	27 00	797
7.28	0.76	0.41	14.92	10.00	13.90	8.00	1.02	2.00	28 00	1195
4.24	1.60	----------	11.80	----------	10.50	10.00	1.30	0.50	35 00	731
6.00	0.90	0.82	11.67	11.00	11.01	10.00	0.66	1.00	33 00	451
6.29	3.37	3.30	9.57	9.00	8.87	8.00	0.70	1.00	----------	783
5.35	1.82	1.65	12.76	11.00	11.74	10.00	1.02	1.00	34 00	511
6.89	1.92	1.65	12.46	11.00	11.46	10.00	1.00	1.00	37 75	452
4.29	1.70	----------	13.76	----------	11.70	11.00	2.06	----------	35 00	996
3.65	1.90	1.44	13.07	10.00	10.71	9.00	2.36	1.00	36 00	445
3.22	1.00	0.82	13.34	11.00	11.30	10.00	2.04	1.00	33 00	543
2.97	0.93	0.82	12.62	11.00	11.32	10.00	1.30	1.00	27 00	342
4.86	0.95	0.82	9.50	9.00	8.58	8.00	0.92	1.00	28 65	11
6.11	1.00	0.82	10.17	9.00	8.93	8.00	1.24	1.00	28 50	855
2.48	1.97	1.65	12.96	11.00	11.54	10.00	1.42	1.00	36 50	304
3.32	1.62	1.65	14.19	----------	12.63	12.00	1.56	----------	35 50	1045
6.77	1.03	0.82	10.97	----------	*10.03	12.00	0.94	----------	32 00	570
3.13	2.02	1.65	15.24	12.00	*9.67	11.00	5.57	1.00	40 00	334
5.55	1.75	1.65	14.05	12.00	11.83	11.00	2.22	1.00	32 00	115
7.96	1.78	1.65	15.48	12.00	12.18	11.00	3.80	1.00	32 50	264
4.33	0.84	0.82	11.75	11.00	10.37	10.00	1.38	1.00	29 00	263
2.37	0.90	0.82	12.31	11.00	*9.40	10.00	2.91	1.00	35 00	953
4.54	1.32	0.82	12.33	11.00	11.45	10.00	0.88	1.00	----------	847
3.05	1.99	1.64	18.69	15.00	15.71	14.00	2.98	1.00	----------	386
5.94	1.60	1.64	17.64	15.00	16.12	14.00	1.52	1.00	34 00	400
1.98	0.95	0.82	14.16	11.00	13.24	10.00	0.92	1.00	20 00	1059
4.20	3.45	3.29	14.73	13.00	12.65	12.00	2.08	1.00	60 00	603
3.46	3.68	3.28	15.87	17.00	13.39	12.00	2.48	1.00	48 00	421

TABLE II.—NITROGEN AND PHOS

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From
676	Reading All Crop Special,	W. J. Brook, Ariel,
852	Reading Special Grain & Grass Producer,	O. F. Bowersox, Milmont,
185	Reading Special Grain & Grass Producer,	Great Valley Mills Co., Exton,
186	Reading Special Potato and Tobacco Manure,	Great Valley Mills Co., Exton,
42	Reading Special Potato and Tobacco Manure,	S. M. Kline, Lebanon,
881	Reading Special Potato and Tobacco Manure,	Evan L. Thomas, Schuylkill Haven,
	READING CHEMICAL COMPANY, READING, PA.	
348	Early Truck, Tobacco and Potato,	H. L. McCloskey, Beech Creek,
143	Farmers Favorite,	C. E. Frazier, Mill Hall,
716	Farmers Favorite,	John W. Root, Kimberton,
43	Farmers Meat Mixture,	Pierce Edris, Myerstown,
349	Farmers Meat Mixture,	H. L. McCloskey, Beech Creek,
715	Farmers Meat Mixture,	John W. Root, Kimberton,
44	Reading Grain Special,	Pierce Edris, Myerstown,
160	Reading Soil Builder,	C. E. Frazier, Mill Hall,
	ROBERT A. REICHARD, ALLENTOWN, PA.	
1210	Reichard's Lehigh Special,	J. P. Kunsman, Hellertown,
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
984	Royster's Honor Brand,	Eulalia Milling Co., Coudersport,
55	Royster's Honor Brand,	W. H. Moyer, Schaefferstown,
187	Royster's Purity Brand,	Great Valley Mills Co., Exton,
147	Royster's Royal Blue Brand,	Glossner Implement Co., Lock Haven,
1071	Royster's Royal Blue Brand,	J. W. White, Jamestown,
	SCHAAL-SHELDON FERTILIZER CO., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BUFFALO, N. Y.	
592	Ammoniated Super Phosphate No. 1,	J. R. Huston, Harrisville,
	SWIFT & COMPANY, BALTIMORE, MD.	
498	Swift's Ammoniated Phosphate 1-10-0,	Ward & Morris, Clearville,
807	Swift's Schuylkill Valley Favorite,	Hadesty Hardware Co., Tamaqua,
93	Swift's Special Corn Grower,	Wm. C. Ball, Media,
625	Swift's Special Corn Grower,	E. B. Fritz & Sons Co., Quarryville,
975	Swift's Special Corn Grower,	Repard & Coolidge, Jersey Shore,
1234	Swift's Special Corn Grower,	Charles S. Stevens, Standing Stone,
	I. P. THOMAS & SON COMPANY, PHILADELPHIA, PA.	
7	Thomas Triumph Manure 1-10-0,	D. L. Hertzler, Mechanicsburg,
830	Wheat and Corn Guano,	Ralph Hethrington, Ringtown,
742	Wheat and Corn Guano,	Latshaw Brothers, Anselma,
	F. W. TUNNELL & COMPANY, INC., PHILADELPHIA, PA.	
409	Fish Manure,	Edw. W. Brinton & Son, West Chester,
411	Lightning Guano,	Edw. W. Brinton & Son, West Chester,
415	Wheat Grower,	M. C. Michiner, Media,
	VIRGINIA-CAROLINA CHEMICAL COMPANY OF DELAWARE, BALTIMORE, MD.	
1065	V. C. Special Fish Preparation,	A. C. Daugherty, Grove City,
	YORK CHEMICAL WORKS, YORK, PA.	
747	Dempwolf's Crop Grower,	Fisher & Nolan, Aldham,
341	Dempwolf's Prosperity,	Delawart Grange, Thompsontown,
748	Dempwolf's Prosperity,	Fisher & Nolan, Aldham,
		Average,

PHORIC ACID FERTILIZERS—Concluded.

Moisture.	NITROGEN.		PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
			Total.		Available.		Insoluble.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	%	%	$	
4.82	1.98	1.64	13.16	11.00	11.68	10.00	1.48	1.00	37.75	676
5.74	1.08	0.82	9.51	8.00	8.24	7.00	1.30	1.00	29 00	852
3.20	1.24	0.82	9.32	8.00	7.88	7.00	1.44	1.00	34 00	135
7.13	0.84	0.82	14.73	13.00	13.25	12.00	1.48	1.00	38 50	136
7.38	1.19	0.82	14.35	13.00	12.87	12.00	1.48	1.00	35 25	42
9.39	1.10	0.82	13.61	13.00	12.31	12.00	1.30	1.00	--------	801
5.72	*2.20	3.25	11.51	--------	10.49	10.00	1.02	--------	41 00	348
7.76	1.09	0.82	11.34	--------	10.42	10.00	0.92	--------	30 20	143
2.94	1.14	0.82	11.21	--------	10.25	10.00	0.96	--------	36 00	716
5.71	0.99	0.82	9.72	--------	8.92	8.00	0.80	--------	--------	43
4.77	1.03	0.82	8.78	--------	8.24	8.00	0.51	--------	31 00	349
2.60	1.02	0.82	9.88	--------	9.16	8.00	0.72	--------	34 00	715
1.72	0.70	0.41	9.56	--------	8.94	8.00	0.62	--------	--------	44
10.20	1.70	1.64	10.93	--------	10.19	10.00	0.74	--------	35 25	160
3.56	1.85	1.64	11.84	11.00	10.77	10.00	1.07	1.00	39 00	1210
1.64	1.72	1.65	11.79	10.50	11.27	10.00	0.52	0.50	34 00	984
2.23	2.01	1.65	12.12	10.50	11.24	10.00	0.88	0.50	--------	55
4.11	1.16	0.82	9.18	8.50	9.06	8.00	0.12	0.50	30 00	137
6.97	0.85	0.82	10.48	10.50	10.08	10.00	0.40	0.50	34 00	747
2.98	0.98	0.82	11.82	10.50	10.96	10.00	0.86	0.50	32 00	1071
2.75	0.94	0.82	13.16	11.00	11.10	10.00	2.06	1.00	30 00	592
6.06	0.96	0.82	11.70	--------	11.32	10.00	0.38	--------	--------	498
5.50	0.65	0.41	8.80	7.00	8.56	7.00	0.24	--------	--------	807
4.72	1.80	1.65	9.98	10.00	*9.78	10.00	0.20	--------	--------	98
5.17	1.74	1.65	11.58	10.00	11.26	10.00	0.22	--------	29 00	625
3.39	1.80	1.65	10.67	10.00	10.55	10.00	0.12	--------	38 00	975
4.35	1.95	1.65	10.92	--------	10.75	10.00	0.17	--------	24 00	1234
6.30	1.18	0.82	11.62	10.50	10.18	10.00	1.44	0.50	27 00	7
5.97	1.73	1.65	12.22	10.50	10.12	10.00	2.10	0.50	--------	830
5.94	1.70	1.65	11.10	10.50	*9.00	10.00	2.10	0.50	36 00	742
4.52	2.45	1.64	12.86	11.00	10.42	10.00	2.44	1.00	40 00	409
5.45	*2.81	4.12	11.36	9.00	9.52	8.00	1.84	1.00	52 00	411
3.60	1.00	0.82	10.79	10.00	9.87	9.00	0.92	1.00	36 00	415
2.17	1.01	0.82	12.76	11.00	11.08	10.00	1.68	1.00	33 00	1065
8.12	1.03	--------	11.48	--------	10.58	10.00	0.90	--------	29 00	747
7.06	1.86	--------	13.54	--------	12.52	12.00	1.02	--------	31 50	341
6.17	1.77	--------	13.43	--------	12.51	12.00	0.92	--------	35 00	748
4.51	1.52	--------	11.83	--------	10.53	--------	1.30	--------	$34 45	--------

* Deficient.

TABLE III—GROUND

Furnishing Nitrogen

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
879	Fine Ground Bone,	Claude Davis, Windber,
1147	Fine Ground Bone,	W. D. Gates, Curwensville,
670	Fine Ground Bone,	B. Vansickel, Cortez,
639	High Grade Ground Bone,	William B. Barnitz, Carlisle,
113	High Grade Ground Bone,	E. H. Keen & Son, Parkesburg,
885	Pure Bone Meal,	Weaver & Berkey, Windber,
	THE AMERICAN AGRICULTURAL CHEMICAL CO., OF NEW JERSEY, LISTERS AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.	
667	Listers Bone Meal 1916,	G. R. Clark, Scranton,
947	Listers Bone Meal 1916,	F. L. Heath, Corry,
	ARMOUR FERTILIZER WORKS, BALTIMORE, MD.	
949	Armour's Big Crop Bone Meal,	Kane Milling & Grocery Co., Kane,
297	Armour's Big Crop Bone Meal,	Summit Lumber Co., Clark Summit,
	BAUGH & SONS COMPANY, BALTIMORE, MD.	
654	Baugh's Bone Meal,	Manchester Grange Co-Operative Association, Emigsville.
183	Baugh's Bone Meal,	W. J. Pratt, Pocopson,
1141	Baugh's Bone Meal,	Routch & Swartzle, Clearfield,
584	Baugh's Pure Steamed Bone,	J. P. Oesterling & Son, Butler,
875	Baugh's Raw Bone Meal,	N. H. Blough, Davidsville,
	THE BERG COMPANY, PHILADELPHIA, PA.	
729	Three & Fifty Bone,	Great Valley Mills Co., Paoli,
	BOWKER FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
315	Bowker's Fresh Ground Bone,	A. E. Seamons, Factoryville,
	THE COE-MORTIMER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
312	E. Frank Coe's Fine Ground Bone,	Abington Lumber Co., Dalton,
	THE CONSUMERS CHEMICAL CORPORATION, AFFILIATED WITH VIRGINIA-CAROLINA CHEMICAL CO. OF DELAWARE, NEW YORK, N. Y.	
818	Bone Meal,	H. S. Young, Conyngham,
	THE JAS. G. DOWNWARD CO., COATESVILLE, PA.	
104	Pure Ground Bone,	Morris S. Bailey, Malvern,
	GRIFFITH & BOYD CO., BALTIMORE, MD.	
796	Griffith & Boyd Co.'s Pure Fine Ground Bone Meal,	E. A. & J. L. Pennock, Chatham,
	S. M. HESS & BROTHER, INC., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., PHILADELPHIA, PA.	
741	Fine Ground Bone,	S. M. Hess & Brother, Inc., Philadelphia,

BONE FERTILIZERS.
and Phosphoric Acid.

	CHEMICAL ANALYSIS				MECHANICAL ANALYSIS			
	NITROGEN.		PHOSPHORIC ACID.					
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Fine.	Coarse.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	$	
6.27	2.80	2.47	25.13	22.88	54	46	58 00	879
7.64	3.15	2.47	25.45	22.88	72	28	58 00	1147
2.74	2.58	2.47	25.85	22.88	73	27	70 00	670
6.89	4.10	3.29	24.19	20.59	61	39	54 00	639
3.91	4.35	3.29	26.79	20.59	68	32	46 00	113
5.49	4.40	3.70	22.99	21.51	46	54	58 00	885
4.06	3.07	2.47	23.16	23.00	65	35	70 00	667
6.66	3.34	2.47	*20.86	23.00	43	57	57 00	947
3.41	3.00	2.47	25.36	22.00	66	34	65 00	949
2.67	2.59	2.47	27.36	22.00	65	35	41 00	297
6.87	3.47	3.30	21.96	18.30	66	34	55 00	654
6.14	3.9	3.30	22.19	18.30	63	37	51 00	133
5.19	3.62	3.30	22.00	18.30	66	34	63 00	1141
4.59	1.74	1.65	25.64	25.00	67	33	50 00	584
5.34	3.72	3.70	*19.96	21.50	61	39	69 00	875
3.32	3.04	----------	23.93	----------	78	22	43 00	720
2.64	2.28	2.47	28.32	22.88	79	21	60 00	815
2.92	3.06	2.47	24.64	22.88	58	42	60 00	912
2.58	3.25	2.47	25.26	22.00	54	46	47 00	818
3.11	*2.53	----------	26.85	20.00	72	28	----------	104
3.99	3.98	3.25	*17.00	20.00	70	30	54 00	738
4.78	2.80	2.42	25.23	22.88	75	25	52 00	741

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* Deficient.
† Reg. Guar.

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE HUBBARD FERTILIZER CO., BALTIMORE, MD.	
734	Hubbard's Pure Raw Bone,	John Hicks, Avondale,
	INTERNATIONAL AGRICULTURAL CORPORATION, BUFFALO FERTILIZER WORKS, BUFFALO, N. Y.	
1064	Buffalo Bone Meal,	A. C. Daugherty, Grove City,
	THE JARECKI CHEMICAL COMPANY, SANDUSKY, OHIO.	
582	Bone Meal,	Biebel Brothers, Kearsage,
	KEYSTONE GRANGE EXCHANGE, MANSFIELD, PA.	
1137	Grangers 3 & 50 Bone Meal,	Pringlehill Grange, Wilmore,
	LEBANON FERTILIZER WORKS, LEBANON, PA.	
244	Levan's Pure Fine Ground Bone,	J. S. Cole, Millville,
	G. OBER & SONS COMPANY, BALTIMORE, MD.	
454	Pure Bone Meal,	Henry S. Zook, Elverson,
	PITTSBURGH PROVISION & PACKING CO., PITTSBURGH, PA.	
1109	Bone Meal Fertilizer,	Scobie & Parker, Pittsburgh,
	RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.	
438	Pure Raw Bone,	Oxford Grain & Hay Co., Oxford,
	F, S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
482	Royster's Fine Ground Bone Meal,	Anderson-Louck's Hardware Co., Connellsville.
1132	Royster's Fine Ground Bone Meal,	R. J. Dunham, Wellsboro,
700	Royster's Pure Raw Bone Meal,	George Dodson, Shickshinny,
	SWIFT & COMPANY, BALTIMORE, MD.	
91	Swift's Bone Meal Fertilizer,	Wm. H. Walker & Co., Kennett Square,
	F. W. TUNNELL & COMPANY, INC., PHILADELPHIA, PA.	
412	Pure Ground Bone,	Edw. W. Brinton & Son, West Chester,
	YORK CHEMICAL WORKS, YORK, PA.	
248	Dempwolf's Pure Ground Bone,	J. S. Loekard, Millville,
		Average,

BONE FERTILIZERS—Concluded.

	CHEMICAL ANALYSIS				MECHANICAL ANALYSIS			
	NITROGEN.		PHOSPHORIC ACID.					
Moisture.	Found.	Guaranteed.	Found.	Guaranteed.	Fine.	Coarse.	Selling price per ton at place of selection.	Chemist's number.
%	%	%	%	%	%	%	$	
4.18	4.43	3.69	24.10	22.50	49	51	53 00	734
2.29	2.18	1.60	29.15	27.00	60	40	60 00	1064
2.67	2.28	1.65	27.12	27.00	64	36	----------	682
2.99	3.00	2.47	24.08	23.00	72	28	45 30	1137
4.58	2.55	2.47	27.25	22.89	69	31	57 00	244
2.01	*2.25	2.47	26.67	22.00	47	53	52 25	454
6.31	4.98	3.70	*18.11	21.00	71	29	----------	1109
6.75	4.36	3.70	24.74	21.51	62	38	50 00	438
6.64	4.50	3.70	24.54	21.50	37	63	59 20	700
2.43	2.29	2.47	28.06	22.90	53	47	----------	482
2.80	2.65	2.47	27.42	24.00	60	40	46 00	91
3.48	2.40	2.46	27.88	23.00	74	26	57 00	412
8.33	3.36	----------	24.34	23.00	59	41	48 75	248
4.50	3.20	----------	24.46	----------	63	37	55 82	----------

* Deficient.

TABLE IV.—ACIDULATED

Furnishing

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	ACME BONE FERTILIZER COMPANY, LANCASTER, PA.	
450	Acme Acid Phosphate 16%,	D. Earl Wagenseller, Supplee,
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
424	14% Acid Phosphate,	A. H. Keeley & Son, Schwencksville,
1102	16% Acid Phosphate,	H. C. Barrits' Sons, Somerset,
580	16% Acid Phosphate,	Girard Coal & Supply, Girard,
228	16% Acid Phosphate,	The Kase Store, Riverside,
306	16% Acid Phosphate,	Oscar Van Buskirk, Bald Mount,
321	Basic Lime Phosphate,	Centre County Farmers Cooperative Association, State College,
611	Basic Lime Phosphate,	John Greenleaf, Quarryville,
1194	Basic Lime Phosphate,	J. T. Stoneback, Springtown,
904	Basic Lime Phosphate,	J. H. Zortman, Hanover,
1149	Josiah Cope's High Grade Superphosphate,	A. L. Cowan, Brookville,
217	W. S. Farmers & Co.'s High Grade Superphosphate,	Moses Brumbaugh, Martinsburg,
20	Ludlam's Cecrops Fertilizer High Grade, Dissolved Phosphate.	Curtis Bushey, Clear Springs,
213	Ludlam's Dissolved Phosphate,	D. B. Griffith, Wolfsburg,
265	Ludlam's Dissolved Phosphate,	N. B. Shober, Garret,
864	Ludlam's High Grade Dissolved Phosphate,	N. B. Shober, Garret,
219	Nassau High Grade Superphosphate,	J. H. Brown, Loysburg,
319	Pollock's High Grade Superphosphate,	Centre County Farmers Cooperative Association, State College.
496	Schaal-Sheldon Soluble Phosphate,	J. E. Jackson, Everett,
112	Susquehanna High Grade Superphosphate 16%.	H. P. Passmore & Brother, Oxford,
235	J. E. Tygert's 10% Acid Phosphate,	W. S. Sidler, Danville,
1169	J. E. Tygert's 10% Acid Phosphate,	A. F. Stutzman & Son, Johnstown,
361	Wheeler's High Grade Acid Phosphate,	Torrence A. DeLong, Loganton,
580	Wheeler's High Grade Acid Phosphate,	J. R. Patterson & Brother, Hilliards,
215	Wheeler's High Grade Acid Phosphate,	C. A. Steckey, Wolfsburg,
1190	Wheeler's Peerless Acid Phosphate,	J. S. Weirbach Son, Pleasant Valley,
17	Wooldridge's Lime Phosphate,	Robert Wentz, Wellsville,
	THE AMERICAN AGRICULTURAL CHEMICAL CO. OF NEW JERSEY, LISTER'S AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.	
793	Lister's High Grade Acid Phosphate,	Wm. H. Fritz, Berwyn,
945	Lister's High Grade Acid Phosphate,	Hammond Elevator Co., Corry,
1120	Lister's High Grade Acid Phosphate,	McHenry & Masteller, Bloomsburg,
9	Lister's Lime Phosphate,	D. L. Hertzler, Mechanicsburg,
	AMERICAN FERTILIZING COMPANY, BALTIMORE, MD.	
433	American High Grade Acid Phosphate,	A. K. Kulp, Pottstown,
	ARMOUR FERTILIZER WORKS, BALTIMORE, MD.	
548	Armour's Big Crop Acid Phosphate 16%,	J. O. Fulton & Co., Burgettstown,
948	Armour's Big Crop Acid Phosphate 16%,	Kane Milling & Grocery Co., Kane,
1150	Armour's Big Crop Acid Phosphate 16%,	Reynoldsville Hardware Co., Reynoldsville.
1215	Armour's Big Crop Acid Phosphate 16%,	John H. Singmaster, Macungie,
292	Armour's Big Crop Acid Phosphate 16%,	Summit Lumber Co., Clark Summit,

PHOSPHATE FERTILIZERS.

Phosphoric Acid.

Moisture.	PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	TOTAL.		AVAILABLE.		INSOLUBLE.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	$	
2.53	17.41	17.00	16.87	16.00	0.54	1.00	22 50	450
2.79	16.30	15.00	14.94	14.00	1.36	1.00	33 00	424
1.16	18.66	17.00	17.82	16.00	0.84	1.00	22 50	1102
2.50	18.05	17.00	16.59	16.00	1.46	1.00	29 80	880
2.11	18.26	17.00	17.80	16.00	0.46	1.00	20 00	228
8.01	18.57	17.06	17.35	16.00	1.22	1.00	26 00	308
1.56	15.80	14.00	13.30	13.00	2.50	1.00	21 42	321
1.27	15.97	14.00	13.67	13.00	2.30	1.00	20 00	611
1.23	14.61	14.00	13.21	13.00	1.40	1.00	33 00	1194
1.44	16.02	-----------	13.62	13.00	2.40	1.00	29 10	994
4.43	17.99	17.00	16.96	16.00	1.03	1.00	21 00	1149
6.12	18.57	17.00	17.69	16.00	0.88	1.00	24 80	217
5.59	17.86	17.00	17.06	16.00	6.80	1.00	-----------	20
5.45	15.88	15.00	14.88	14.00	1.00	1.00	23 00	218
1.93	15.86	15.00	15.08	14.00	0.78	1.00	26 00	865
2.49	17.90	17.00	17.04	16.00	0.86	1.00	27 50	864
6.39	18.24	17.00	17.38	16.00	0.86	1.09	26 00	219
1.16	18.88	17.06	18.22	16.00	0.66	1.09	21 42	319
1.09	17.86	17.00	16.94	16.00	0.92	1.00	22 00	496
3.71	17.54	17.00	16.54	16.00	1.00	1.09	22 60	112
1.74	18.62	17.00	18.16	16.00	0.46	1.00	22 50	235
1.39	18.00	17.00	17.45	16.00	0.64	1.09	25 00	1169
1.96	18.53	17.00	17.83	16.00	0.70	1.00	31 24	861
1.23	18.43	17.00	16.71	16.00	1.72	1.00	33 75	588
2.77	18.20	17.00	17.78	16.00	0.42	1.00	30 00	215
2.37	15.56	15.00	14.51	14.00	1.05	1.00	25 00	1190
1.46	14.80	14.00	13.28	13.00	1.52	1.00	-----------	17
3.46	18.44	17.00	17.16	16.00	1.28	1.00	32 00	723
3.29	17.80	-----------	17.60	16.00	0.20	-----------	27 60	948
3.23	17.56	-----------	17.44	16.00	0.12	-----------	27 00	1120
5.80	14.58	14.00	13.02	13.00	1.56	1.00	24 00	9
2.11	18.82	17.00	18.02	16.00	0.80	1.00	28 60	482
2.42	18.46	16.50	18.08	16.00	0.38	0.50	24 50	548
2.39	17.91	16.50	17.47	16.00	0.44	0.50	30 00	948
3.07	18.06	16.00	17.93	16.00	0.13	-----------	26 00	1150
2.08	18.76	16.50	18.30	16.00	0.46	0.50	25 60	1215
1.24	18.52	16.50	17.78	16.00	0.74	0.50	29 00	202

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
1139	Baugh's 14% Acid Phosphate,	Routch & Swartzle, Clearfield,
876	Baugh's 16% Acid Phosphate,	N. H. Blough, Davidsville,
1078	Baugh's 16% Acid Phosphate,	A. L. Burlington, Rummerfield,
576	Baugh's 16% Acid Phosphate,	S. Eiseman, Meadville,
1140	Baugh's 16% Acid Phosphate,	Routch & Swartzle, Clearfield,
597	Baugh's 16% Acid Phosphate,	S. Leroy Tuttle, Franklin,
	BOWKER FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
776	Bowker's 16% Acid Phosphate,	S. A. Fishburn, Penbrook,
534	Bowker's 16% Acid Phosphate,	Clinton Pepper, West Brownsville,
660	Bowker's 16% Acid Phosphate,	A. E. Seamon, Factoryville,
1178	Bowker's 16% Acid Phosphate,	Stultz Brothers, Hollidaysburg,
212	Bowker's Lime Phosphate,	D. B. Griffith, Wolfsburg,
468	Bowker's Lime Phosphate,	Meyersdale Hardware Co., Meyersdale,
1177	Bowker's Lime Phosphate,	Stultz Brothers, Hollidaysburg,
922	Bowker's Soluble Phosphate,	J. B. Dymond, Waymarth,
1098	Bowker's Soluble Phosphate,	H. M. Spaulding Son, Troy,
	THE BRYANT FERTILIZER COMPANY, ALEXANDRIA, VA.	
594	Bryant's 16% Acid Phosphate,	S. Leroy Tuttle, Franklin,
	THE CENTRAL CHEMICAL COMPANY, HAGERSTOWN, MD.	
318	16% Dissolved Phosphate,	Andrew Boison, Mifflintown,
550	16% Dissolved Phosphate,	A. J. Cook & Co., Burgettstown,
490	16% Dissolved Phosphate,	Blair Knisely, Reynoldsdale,
449	16% Dissolved Phosphate,	D. Earl Wagenseller, Supplee,
	THE COE-MORTIMER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
314	E. Frank Coe's 16% Superphosphate,	Abington Lumber Co., Dalton,
1027	E. Frank Coe's 16% Superphosphate,	Frank E. Grazier, Warriors Mark,
958	E. Frank Coe's 16% Superphosphate,	E. W. Jones, Smethport,
	COLUMBIA GUANO COMPANY, ALLIED WITH F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
674	Columbia 16% Acid Phosphate,	W. S. Minnion, Meadville,
	THE CONSUMERS CHEMICAL CORPORATION AFFILIATED WITH VIRGINIA-CAROLINA CHEMICAL COMPANY OF DELAWARE, NEW YORK, N. Y.	
1087	Samson Brand,	Arthur Kniffen, Milan,
357	Samson Brand,	Wm. L. Wolfe, Booneville,
1001	Sterling Phosphate,	[illegible] L. Allen, Powell,
938	Sterling Phosphate,	[illegible] S. Lockwood, S. Cannan,
363	Sterling Phosphate,	Wm. L. Wolfe, Booneville,
	EASTERN GUANO CO., NEW YORK, N. Y.	
501	Eastern 16% Dissolved Phosphate,	John A. Diehl & Co., Richmond Furnace,
986	Eastern 16% Dissolved Phosphate,	Eulalia Milling Company, Coudersport,
	EUREKA CHEMICAL COMPANY, BALTIMORE, MD.	
490	Eureka 16% Acid Phosphate,	W. H. Nesbit, McConnellsburg,

PHOSPHATE FERTILIZERS.—Continued.

Moisture.	PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	TOTAL.		AVAILABLE.		INSOLUBLE.			
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.		
%	%	%	%	%	%	%	$	
3.54	17.22	----------	16.84	14.00	0.38	----------	22 00	1139
4.25	17.72	----------	16.64	16.00	1.08	----------	27 00	876
1.46	18 05	----------	17.09	16.00	0.96	----------	22 50	1078
4.61	18.09	----------	17.93	16.00	0.16	----------	25 00	576
2.84	17.84	----------	17.57	16.00	0.27	----------	23 50	1140
1.52	17.73	----------	17.21	----------	0.52	----------	22 50	597
1.91	18.11	17.00	17.25	16.00	0.86	1.00	22 00	776
2.13	19.16	17.00	18.42	16.00	0.74	1.00	24 75	534
2.80	18.05	17.00	17.11	16.00	0.94	1.00	27 50	660
1.79	17.81	17.00	17.31	16.00	0.50	1.00	25 00	1178
1.92	14 54	14.00	*12.10	13.00	2.44	1.00	23 00	212
2.62	14.48	14.00	*12.56	13.00	1.92	1.00	25 65	468
1.58	15.05	14.00	*12.37	13.00	2.68	1.00	25 00	1177
3.30	16.49	15.00	15.27	14.00	1.12	1.00	28 00	922
4.07	16.30	15.00	14.42	14.00	1.88	1.00	22 00	1098
4.05	18.50	17.00	17.42	16.00	1.08	1.00	24 00	594
6.96	18.56	----------	18.46	16.00	0.10	----------	----------	318
2.31	18 86	----------	18.22	16.00	0.64	----------	26 00	550
2.49	18.92	----------	18.30	16.00	0.62	----------	25 00	490
3.50	17.23	----------	17.05	16.00	0.18	----------	23 50	449
2.73	19.64	17.00	18.24	16.00	1.40	1.00	28 50	314
3.78	18.27	17.00	17.43	16.00	0.84	1.00	22 00	1027
1.64	18.25	17.00	17.35	16.00	0.90	1.00	23 50	958
5.94	18.54	16.50	17.62	16.00	0.92	0.50	23 50	574
3.42	22.32	21.00	22.08	20.00	0.24	1.00	----------	1087
3.54	22.54	21.00	21.70	20.00	0.84	1.00	31 00	357
3.44	17.98	17.00	17.72	16.00	0.26	1.00	25 00	1091
7.62	17.28	17.00	16.78	16.00	0.50	1.00	28 50	928
10.94	17.54	17.00	16.84	16.00	0.70	1.00	24 25	363
5.00	18.13	----------	17.50	16.00	0.54	----------	22 00	501
1.90	17.86	----------	17.48	16.00	0.38	----------	23 00	985
2.20	18.78	----------	17.70	16.00	1.08	0.50	21 50	499

TABLE IV.—ACIDULATED

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	GRIFFITH & BOYD CO., BALTIMORE, MD.	
483	Griffith & Boyd Co.'s 16% High Grade Acid Phosphate.	Burdett & Saylor, Dawson,
88	Griffith & Boyd Co.'s 16% High Grade Acid Phosphate.	John Haverstick, Oxford,
220	Griffith & Boyd Co.'s 16% High Grade Acid Phosphate.	E. L. White, Danville,
	S. M. HESS & BROTHER, INC., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., PHILADELPHIA, PA.	
1131	Processed Phosphate Lime,	Arch W. Snyder, Coudersport,
1224	Processed Phosphate Lime,	Harvey Werner, Nazareth,
492	Special High Grade Acid Phosphate,	F. R. Reighard, Bedford,
852	Special High Grade Acid Phosphate,	H. M. Stomm, Loganton,
832	Special High Grade Acid Phosphate,	J. A. Yost, Ringtown,
	THE HUBBARD FERTILIZER COMPANY, BALTIMORE, MD.	
1162	Hubbard's 10% Phosphate,	J. E. Crisman, South Fork,
626	Hubbard's 16% Phosphate,	E. B. Fritz & Sons Co., Quarryville,
1037	Hubbard's 16% Phosphate,	W. H. Haylett, Sandy Lake,
738	Hubbard's 16% Phosphate,	John Hicks, Avondale,
844	Hubbard's 16% Phosphate,	E. A. Stambaugh, Green Park,
	KEYSTONE GRANGE EXCHANGE, MANSFIELD, PA.	
1032	Grangers Acid Phosphate,	Charles King, Sharon,
562	Grangers Acid Phosphate,	Ray Mosier, Eldred,
1136	Grangers Acid Phosphate,	Pringlehill Grange, Wilmore,
1158	Grangers Acid Phosphate,	Success Grange, Indiana,
	LANCASTER CHEMICAL COMPANY, LANCASTER, PA.	
617	No. 16 Phosphoric Acid Special,	Ross C. Collins, Quarryville,
931	No. 16 Phosphoric Acid Special,	F. E. Neafe & Co., Coudersport,
	LEBANON FERTILIZER WORKS, LEBANON, PA.	
760	Levan's Super Phosphate,	J. M. Groh, Lickdale,
174	Levan's Super Phosphate,	Hegins Grange, Hegins,
179	Levan's Super Phosphate,	Horace Kintzle, Pine Grove,
	FRED E. LORD, EPSY, PA.	
268	Acid Phosphate,	M. J. Hess, Bloomsburg,
	THE MARTIN FERTILIZER CO., PHILADELPHIA, PA.	
889	Martin's Acid Phosphate,	Coleraine Grange, Kirkwood,
	THE MILLER FERTILIZER CO., BALTIMORE, MD.	
287	Acid Phosphate,	Preston Eves & Son, Millville,
57	Acid Phosphate,	Cyrus Gaul, Robesonia,
621	Acid Phosphate,	P. C. Miller, Meyersdale,
	NITRATE AGENCIES COMPANY, NEW YORK, N Y.	
1198	Naco High Grade Acid Phosphate,	Wm. P. Newbold, Langhorne,
1245	Naco High Grade Acid Phosphate,	Joseph Robinson, Tunkhannock,
286	Naco High Grade Acid Phosphate,	John Williams, Moscow,
257	Pennsylvania Farmers Association Brand Acid Phosphate.	Buffalo Valley Producers & Consumers Corporation, Lewisburg.
148	Pennsylvania Farmers Association Brand Acid Phosphate.	Clinton County Cooperative Association, Lock Haven.
835	Pennsylvania Farmers Association Brand Acid Phosphate.	Schuylkill Cooperative Potato Grower Association,

PHOSPHATE FERTILIZERS.—Continued.

	PHOSPHORIC ACID.							
	TOTAL.		AVAILABLE.		INSOLUBLE.			
Moisture.	Found.	Gauranteed.	Found.	Guaranteed.	Found.	Guaranteed.	of selection.	Chemist's number.
%	%	%	%	%	%	%	$	
4.09	18.88	----------	18.68	16.00	0.20	----------	23 00	483
5.81	16.91	----------	16.69	16.00	0.22	----------	21 00	86
3.84	17.55	----------	17.13	16.00	0.42	----------	23 00	220
0.88	13.27	14.00	*11.83	13.00	1.44	1.00	28 00	1131
1.32	13.59	14.00	*12.29	13.00	1.30	1.00	32 50	1224
3.87	18.44	17.00	17.62	16.00	0.82	1.00	24 00	492
1.73	19.48	17.00	17.78	16.00	1.70	1.00	24 25	352
4.08	18.58	17.00	17.26	16.00	1.32	1.00	26 00	832
1.59	18.89	----------	17.64	16.00	1.25	----------	23 50	1162
2.34	18.90	----------	17.96	16.00	0.94	----------	20 00	626
1.36	19.07	----------	17.69	16.00	1.38	----------	23 00	1037
1.74	18.62	----------	17.38	16.00	1.24	----------	21 00	734
6.56	18.81	----------	17.69	16.00	1.12	----------	23 40	844
3.66	18.12	16.00	16.84	16.00	1.28	----------	25 00	1032
1.31	18.68	16.00	17.56	16.00	1.12	----------	22 96	562
1.44	18.34	16.00	17.47	16.00	0.87	----------	23 06	1136
1.69	18.25	16.00	17.64	16.00	0.61	----------	----------	1153
3.91	18.34	17.00	17.94	16.00	0.40	1.00	21 70	617
2.96	18.41	----------	17.97	16.00	0.44	1.00	37 00	981
6.75	17.34	17.00	16.22	16.00	1.12	1.00	28 50	766
3.16	18.36	17.00	18.18	16.00	0.18	1.00	----------	174
6.81	18.06	17.00	17.54	16.00	0.52	1.00	25 00	179
10.40	18.59	16.50	18.47	16.00	0.12	0.50	----------	268
2.68	18.62	----------	18.26	16.00	0.36	----------	20 00	860
3.56	18.19	----------	17.41	16.00	0.78	0.50	24 00	237
1.56	17.99	----------	17.17	16.00	0.82	0.50	----------	57
2.11	17.69	----------	16.45	16.00	1.24	0.50	23 00	821
6.46	17.28	17.00	17.17	16.00	0.11	1.00	25 00	1198
2.77	18.52	17.00	18.28	16.00	0.24	1.00	----------	1243
3.34	18.48	17.00	18.36	16.00	0.12	1.00	23 75	286
3.93	18.71	----------	18.47	16.00	0.24	----------	----------	857
8.92	16.73	----------	16.27	16.00	0.46	----------	22 40	148
2.79	19.06	----------	18.74	16.00	0.32	----------	----------	865

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* Deficient.

TABLE IV.—ACIDULATED

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	G. OBER & SONS COMPANY, BALTIMORE, MD.	
633	Ober's High Grade Acid Phosphate,	Ajax Supply Co., Lancaster,
1216	Ober's High Grade Acid Phosphate,	Wm. T. Guth, Macungie,
853	Ober's High Grade Acid Phosphate,	Maurice Mench, Mifflinburg,
	OXFORD PACKING WORKS, OXFORD, PA.	
727	O. P. W. 14% Acid Phosphate,	Oxford Packing Works, Oxford,
	PATAPSCO GUANO COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., BALTIMORE, MD.	
1610	Crow Brand Basic Lime Phosphate,	Roy Witter, Waterfall,
12	Patapsco High Grade Acid Phosphate,	Dillsburg Grain & Milling Co., Dillsburg,
557	Patapsco High Grade Acid Phosphate,	Russel Brothers, Washington,
303	Patapsco High Grade Acid Phosphate,	Oscar Van Bushkirk, Bald Mount,
1172	Patapsco High Grade Acid Phosphate,	F. P. Waite, Tyrone,
	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.	
1221	Piedmont 16% Acid Phosphate,	Henry Baumgartner, Vera Cruz,
571	Piedmont 16% Acid Phosphate,	W. S. Minnion, Meadville,
1021	Piedmont 16% Acid Phosphate,	John G. Simpson, Huntingdon,
366	Piedmont 16% Acid Phosphate,	Solomon & Waltz, Antes Fort,
	RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.	
116	Rasin's 16% Acid Phosphate,	E. H. Keen & Son, Parkesburg,
250	Rasin's 16% Acid Phosphate,	H. . Blow & Son, Orangeville,
1206	Rasin's 16% Acid Phosphate,	H. K. Mohr, Quakertown,
577	Rasin's 16% Acid Phosphate,	W. A. Poter, Cambridge Springs,
	READING BONE FERTILIZER CO., READING, PA.	
134	16% Clear Acid Phosphate,	Great Valley Millls Co., Exton,
564	16% Clear Acid Phosphate,	Jas. Hackett, Smethport,
1000	16% Clear Acid Phosphate,	Krause & Freehling, Marwood,
	READING CHEMICAL COMPANY, READING, PA.	
387	Reading 10% Clear Acid Phosphate,	W. H. Dreibelbis, Shoemakersville,
159	Reading 10% Clear Acid Phosphate,	C. E. Frazier, Mill Hall,
256	Reading 10% Clear Acid Phosphate,	W. W. Parker, Rohrsburg,
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
532	Royster's 14% Acid Phosphate,	C. D. Chamberlain, Brownsville,
956	Royster's 14% Acid Phosphate,	I. A. Chase & Son, Russell,
537	Royster's 14% Acid Phosphate,	Paul Clark, Beallsville,
481	Royster's 16% Acid Phosphate,	Anderson-Louck's Hardware Co., Connellsville.
231	Royster's 16% Acid Phosphate,	G. E. App. Mausdale,
588	Royster's 16% Acid Phosphate,	Campbell & Campbell, Keisters,
1127	Royster's 16% Acid Phosphate,	Eulalia Milling Co., Coudersport,
269	Royster's 16% Acid Phosphate,	J. A. Gardner, Moscow,
	SHARON RENDERING & FERTILIZER WORKS, SHARON, PA.	
1034	16% Available Phosphoric Acid,	Charles Woge & Sons, Sharon,
	SWIFT & COMPANY, BALTIMORE, MD.	
647	Swift's High Grade Acid Phosphate Fertilizer 16%.	William B. Barnitz, Carlisle,
939	Swift's High Grade Acid Phosphate Fertilizer 16 %.	H. S. Lockwood, S. Cannan,

PHOSPHATE FERTILIZERS.—Continued.

Moisture.	PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	TOTAL.		AVAILABLE.		INSOLUBLE.			
	Found.	Gauranteed.	Found.	Gauranteed.	Found.	Gauranteed.		
%	%	%	%	%	%	%	$	
5.13	18.51	17.00	18.35	16.00	0.16	1.00	24 00	633
5.87	16.79	17.00	16.66	16.00	0.12	1.00	23 50	1216
6.52	16.79	17.00	16.59	16.00	0.20	1.00	----------	853
2.62	15.95	15.00	15.13	14.00	0.82	1.00	21 00	727
1.30	14.73	14.00	*11.69	13.00	3.04	1.00	----------	1010
5.78	17.84	17.00	17.24	16.00	0.60	1.00	25 45	12
1.72	18.46	17.00	17.84	16.00	0.62	1.00	20 00	557
2.19	18.50	17.00	17.76	16.00	0.74	1.00	28 00	303
5.72	17.35	17.00	16.46	16.00	0.89	1.00	----------	1172
2.54	18.30	----------	18.12	16.00	0.18	----------	31 50	1221
6.72	15.12	----------	*14.80	16.00	0.22	----------	23 50	571
1.76	18.96	----------	18.56	16.00	0.40	----------	24 00	1021
2.90	17.79	----------	17.29	16.00	0.50	----------	26 00	366
10.64	17.56	17.00	16.76	16.00	0.80	1.00	22 00	116
10.71	17.33	17.00	16.11	16.00	1.22	1.00	22 00	259
9.26	17.13	17.00	16.31	16.00	0.82	1.00	25 00	1206
4.19	18.43	17.00	17.35	16.00	1.08	1.00	24 00	577
1.94	18.94	----------	17.48	16.00	1.46	----------	30 00	134
7.03	18.38	17.00	16.74	16.00	1.64	1.00	22 66	564
1.71	18.24	17.00	17.12	16.00	1.12	1.00	23 50	1060
4.94	17.81	----------	17.35	16.00	0.46	----------	24 75	387
2.18	18.66	----------	18.18	16.00	0.48	----------	23 50	159
7.23	17.46	----------	16.98	16.00	0.48	----------	23 58	256
2.19	15.84	14.50	15.62	14.00	0.22	0.50	35 00	532
2.54	15.25	14.50	14.51	14.00	0.74	0.50	30 00	956
1.61	15.64	14.50	15.10	14.00	0.54	0.50	33 00	537
5.92	17.88	16.50	16.74	16.00	1.14	0.50	28 00	481
3.51	18.76	16.50	18.20	16.00	0.56	0.50	25 00	231
6.29	16.92	16.50	16.08	16.00	0.84	0.50	24 00	588
2.88	18.80	16.50	18.64	16.00	0.16	0.50	23 00	1127
1.64	18.18	16.50	17.54	16.00	0.64	0.50	28 00	269
6.04	17.57	----------	16.69	16.00	0.88	----------	25 00	1034
2.19	18.56	16.00	17.44	16.00	1.12	----------	22 50	647
1.43	19.74	16.00	18.68	16.00	1.06	----------	26 00	939

TABLE IV.—ACIDULATED

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
1638	Swift's High Grade Acid Phosphate Fertilizer 16 %.	H. E. Nicklin, Sandy Lake,
1181	Swift's High Grade Acid Phosphate Fertilizer 16 %.	H. L. Stultz & Brother, Altoona,
	I. P. THOMAS & SON COMPANY, PHILADELPHIA, PA.	
1187	16% Acid Phosphate,	T O. Bachman, Hellertown,
124	16% Acid Phosphate,	Ferree Grossman, Parkesburg,
	UNITED STATES GUANO CO., BALTIMORE, MD.	
951	Standard United States Extra High Grade 16% Acid Phosphate.	Kane Dairy Co-op., Dairy Association, Kane,
462	Standard United States Extra High Grade 16% Acid Phosphate.	Somerset County Grange, Somerset,
526	Standard United States Extra High Grade 16% Acid Phosphate.	Somerset County Grange, Somerset,
	VIRGINIA-CAROLINA CHEMICAL COMPANY OF DELAWARE, BALTIMORE, MD.	
130	V. C. 16% Acid Phosphate,	Chester County Association of Farmers, Kelton.
553	V. C. 16% Acid Phosphate,	W. H. McPeak, Hickory,
573	V. C. 16% Acid Phosphate,	W. S. Minnion, Meadville,
	YORK CHEMICAL WORKS, YORK, PA.	
915	16% Acid Phosphate,	Merton E. Haines, Pleasant Grove,
251	16% Acid Phosphate,	J. S. Lockard, Millville,
96	16% Acid Phosphate,	Harry Pyle & Sons, Chadds Ford Junction,
1164	16% Acid Phosphate,	Wallace Sherbine, Wilmore,
		Average,

PHOSPHATE FERTILIZERS—*Concluded.*

Moisture.	PHOSPHORIC ACID.						Selling price per ton at place of selection.	Chemist's number.
	TOTAL.		AVAILABLE.		INSOLUBLE.			
	Found.	Gauranteed.	Found.	Gauranteed.	Found.	Gauranteed.		
%	%	%	%	%	%	%	$	
2.53	18.43	16.00	17.69	16.00	0.74	----------	23 75	1038
8.95	18.69	16.00	17.61	16.00	1.08	----------	25 00	1181
4.44	18.33	16.50	18.25	16.00	0.68	0.50	26 00	1187
4.55	17.92	----------	17.54	16.00	0.38	----------	23 50	124
6.68	17.23	16.50	17.09	16.00	0.14	0.50	23 26	851
7.06	17.73	16.50	17.27	16.00	0.46	0.50	23 00	462
2.44	18.76	16.50	18.10	16.00	0.66	0.50	23 00	526
2.69	19.01	----------	18.15	16.00	0.86	----------	22 00	130
4.36	18.49	17.00	18.01	16.00	0.48	1.00	30 00	558
5.34	18.99	17.00	17.95	16.00	1.04	1.00	23.50	573
2.75	18.55	----------	18.45	16.00	0.10	----------	21 00	916
6.39	17.85	----------	17.55	16.00	0.30	----------	21 25	251
9.23	16.80	----------	16.58	16.00	0.22	----------	23 50	96
2.68	17.82	----------	17.72	16.00	0.10	----------	31 00	1104
3.65	17.80	----------	17.00	----------	0.80	----------	$25 20	----------

TABLE V.—ROCK AND
Furnishing Phos

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
615	Big Crop Phosphate,	John Greenleaf, Quarryville,
673	Bowker's Superphosphate with Potash,	J. N. Cook, Lake Ariel,
177	Bowker's Superphosphate with Potash,	Geo. Maurer, Pitmau,
1050	Bradley's Phosphate and Potash,	Geo. Ifft & Son, Evans City,
898	Josiah Cope's Universal Mixture,	Jones Evanson, Christiana,
1155	Crocker's Dissolved Phosphate and Potash,	Gibson-Clark Co., Indiana,
610	Crocker's Dissolved Phosphate and Potash,	John Greenleaf, Quarryville,
955	Crocker's Dissolved Phosphate and Potash,	Mensch's Hardware Co., Marionville,
641	Dissolved Phosphate and Potash,	William B. Barnitz, Carlisle,
1104	Dissolved Phosphate and Potash,	H. C. Berrits' Son, Somerset,
1051	Dissolved Phosphate and Potash,	H. F. Gelbach, Evans City,
881	Ludlam's I. X. L. Brand,	Claude Davis, Windber,
878	Ludlam's Phosphate and Potash,	Claude Davis, Windber,
863	Ludlam's Phosphate and Potash,	N. B. Shober, Garret,
1146	Milsom's Crown Phosphate,	W. D. Gates, Curwensville,
860	Nassau Potash and Phosphate Revised,	Frank Allen, Allenwood,
493	Pollock's Star Alkaline Phosphate,	Albert Dively, Bedford,
1080	Read's Champion Phosphate,	Billings & Koldar, New Albany,
943	Star Phosphate,	Union Coal & Supply Co., Union City,
1072	Star Phosphate,	J. E. Watters, Jamestown,
614	Three Star Phosphate and Potash,	John Greenleaf, Quarryville,
497	Three Star Phosphate and Potash,	J. E. Jackson, Everett,
114	Whann's Chester Valley Liberty Brand, Alkaline Phosphate,	E. H. Keen & Son, Parkesburg,
590	Wheeler's Wheat and Clover Fertilizer,	J. R. Patterson & Brother, Hilliards,
750	Wheeler's Wheat and Clover Fertilizer,	Estate of Geo. S. Snyder, Hatfield,
848	Wooldridge's Liberty Bell Potash Mixture,	R. E. Brindle, Belleville,
23	Wooldridge's Liberty Bell Potash Mixture,	Robert Wentz, Wellsville,
	THE AMERICAN AGRICULTURAL CHEMICAL CO. OF NEW JERSEY, LISTERS AGRICULTURAL CHEMICAL WORKS, NEWARK, N. J.	
279	Lister's Grain and Grass Fertilizer Revised,	R. H. McLean, Moscow,
838	Lister's Grain and Grass Fertilizer Revised,	I. B. Secrist, Millerstown,
1070	Lister's Grain and Grass Fertilizer Revised,	J. W. White, Jamestown,
149	Lister's Potash Mixture,	Kencht Milling Co., Mill Hall,
758	Lister's Potash Mixture,	J. Frank Lutz, Stevens,
1130	Lister's Soluble Crop Grower,	F. C. Jacobs, Couder port,
	ARMOUR FERTILIZER WORKS, BALTIMORE, MD.	
1017	Armour's Big Crop Fertilizer 10-5,	H. O. Andrews, Mapleton Depot,
1001	Armour's Big Crop Fertilizer 10-5,	James A. Harkness, Reedsville,
740	Armour's Phosphate and Potash No. 1,	F. E. Bailey, Northbrook,
1151	Armour's Phosphate and Potash No. 1,	Reynoldsville Hardware Co., Reynoldsville,
910	Armour's Phosphate & Potash No. 1,	Jos. C. Walker & Son Co., Gap,
1069	Armour's Phosphate & Potash No. 1,	J. W. White, Jamestown,
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
388	Baugh's Phosphate and Potash Mixture 10-4,	Wm. B. Tobias, Mohrsville,
241	Baugh's Phosphate and Potash Mixture 12-5,	A. W. Eves, Millville,
408	Baugh's Phosphate and Potash Mixture 12-5,	O. W. Shortlidge, Lincoln University,
1003	Baugh's Phosphate and Potash Mixture 12-5,	Charles F. Stover, Millheim,
1016	Baugh's Soluble Alkaline Super Phosphate,	P. J. Briggs, Mt. Union,
629	Baugh's Soluble Alkaline Super Phosphate,	E. B. Fritz & Sons Co., Quarryville,
266	Baugh's Soluble Alkaline Super Phosphate,	H. B. Low & Son, Orangeville,

POTASH FERTILIZERS.

phoric Acid and potash.

Moisture.	PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	$	
3.52	9.66	9.00	8.92	8.00	0.74	1.00	5.21	5.00	5.21	-------	33 00	615
5.21	12.23	11.00	11.31	10.00	0.92	1.00	2.01	2.00	1.70	1.31	32 50	673
4.47	11.10	11.00	10.10	10.00	1.00	1.00	2.31	2.00	2.31	-------	32 50	177
1.99	11.74	11.00	10.22	10.00	1.52	1.00	2.20	2.00	2.20	-------	30 00	1050
2.12	9.49	9.00	8.63	8.00	0.86	1.00	5.24	5.00	5.24	-------	35 00	898
1.72	11.70	11.00	10.21	10.00	1.49	1.00	2.03	2.00	2.03	-------	35 00	1155
4.75	11.20	11.00	10.42	10.00	0.78	1.00	2.36	2.00	2.36	-------	27 00	610
5.11	11.92	11.00	10.58	10.00	1.34	1.00	2.60	2.00	2.60	-------	34 00	955
6.61	11.92	11.00	11.10	10.00	0.82	1.00	2.00	2.00	2.00	-------	31 00	641
5.49	11.00	11 00	10.35	10.00	0.74	1.00	2.24	2.00	2.24	-------	30 00	1104
2.05	11.75	11.00	10.33	10.00	1.42	1.00	2.10	2.00	0.70	1.40	35 00	1051
5.23	9.34	9.00	8.70	8.00	0.64	1.00	5.29	5.00	5.29	-------	41 50	881
7.77	11.19	11.00	10.37	10.00	0.82	1.00	2.21	2.00	2.24	-------	35 00	878
4.28	11.42	11.00	10.54	10.00	0.88	1.00	2.35	2.00	2.35	-------	33.00	863
2.92	11.44	11.00	10.32	10.00	1.12	1.00	2.13	2.00	2.13	-------	37 00	1146
8.87	12.63	13.00	*11.75	12.00	0.88	1.00	2.95	3.00	2.95	-------	35 00	860
7.00	14.28	13.00	13.24	12.00	1.04	1.00	2.81	3.00	2.81	-------	26 00	493
4.44	12.00	11.00	10.94	10.00	1.06	1.00	1.96	2.00	1.96	-------	30 00	1089
1.66	9.93	9.00	8.59	8.00	1.34	1.00	3.65	3.00	3.65	-------	31 00	943
1.56	10.12	9.00	8.76	8.00	1.36	1.00	3.33	3.00	3.33	-------	31 00	1072
8.66	11.60	11.00	10.92	10.00	0.68	1.00	4.60	4.00	4.00	-------	32 00	614
6.39	12.21	11.00	11.49	10.00	0.72	1.00	4.17	4.00	4.17	-------	35 00	497
1.86	9.92	9.00	8.60	8.00	1.32	1.00	4.84	5.00	4.84	-------	32 50	114
2.50	12.62	11.00	11.12	10.00	1.50	1.00	2.31	2.00	2.31	-------	38 75	590
3.41	10.98	11.00	10.02	10.00	0.96	1.00	2.36	2.00	2.36	-------	36 50	750
5.26	14.12	13.00	13.02	12.00	1.10	1.00	2.97	3.00	2.97	-------	-------	848
10.62	13.16	13.00	12.14	12.00	1.02	1.00	3.12	3.00	2.12	-------	-------	23
5.11	11.88	11.00	11.44	10.00	0.44	1.00	2.21	2.00	2.21	-------	35 00	279
4.13	12.17	11.00	11.33	10.00	0.84	1.00	2.33	2.00	2.33	-------	32 00	838
5.64	11.51	11.00	11.07	10.00	0.44	1.00	2.10	2.00	2.10	-------	31 50	1070
2.18	9.85	9.00	8.71	8.00	0.64	1.00	5.00	5.00	5.00	-------	38 00	149
1.91	9.32	9.00	8.64	8.00	0.68	1.00	5.50	5.00	5.50	-------	-------	758
3.23	14.81	13.00	12.63	12.00	2.18	1.00	2.89	3.00	-------	2.89	32 00	1130
3.35	11.52	10.50	10.96	10.00	0.56	0.50	*4.59	5.00	4.59	-------	36 00	1017
6.04	10.84	10.50	10.28	10.00	0.56	0.50	5.47	5.00	5.47	-------	37 00	1001
3.37	9.82	10.50	*9.18	10.00	0.64	0.50	2.45	2.00	2.45	-------	31 00	740
4.24	10.40	10.50	10.03	10.00	0.37	0.50	2.19	2.00	2.19	-------	35 50	1151
2.42	11.64	10.50	10.94	10.00	0.70	0.50	2.31	2.00	2.31	-------	30 00	910
5.88	10.41	10.50	9.99	10.00	0.42	0.50	2.04	2.00	2.04	-------	29.75	1069
5.90	12.22	10.00	11.52	10.00	0.70	-------	4.09	4.00	4.09	-------	38 00	388
7.03	13.33	-------	12.59	12.00	0.74	-------	5.38	5.00	5.38	-------	39 00	241
5.62	14.05	-------	13.23	12.00	0.82	-------	5.27	5.00	5.27	-------	39 00	408
8.7	13.78	-------	12.96	12.00	0.82	-------	5.56	5.00	5.36	-------	-------	1003
3.1	11.86	-------	10.92	10.00	0.94	-------	2.08	2.00	2.08	-------	34 00	1016
3.8	11.56	10.00	10.98	10.00	0.58	-------	2.06	2.00	2.06	-------	28 00	629
6.2	11.98	-------	10.56	10.00	0.80	-------	2.16	2.00	2.16	-------	29 75	262

TABLE V.—ROCK AND

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	BOWKER FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
552	Bowker's Superphosphate with Potash, ----	W. H. McPeak, Hickory, ----------------
	CENTRAL CHEMICAL COMPANY, HAGERSTOWN, MD.	
3115	Gro-All Commonwealth, --------------------	N. G. Adams, Paxinos, -----------------
	COLUMBIA GUANO COMPANY, ALLIED WITH F. S. ROYSTER GUANO CO., BALTIMORE, MD.	
240	Columbia 10-2 Phosphate and Potash, ----	Charley Stackhouse, Unityville, ----------
	EASTERN GUANO COMPANY, NEW YORK, N. Y.	
500	Eastern Potash Special, --------------------	John A. Diehl & Co., Richmond Furnace,
505	Eastern Potash Special, --------------------	Greencastle Elevator Co., Greencastle, --
	GRIFFITH & BOYD CO., BALTIMORE, MD.	
96	Griffith & Boyd Co.'s Special Grain Grower,	Passmore & Co., Nottingham, ----------
222	Griffith & Boyd Co.'s Special Grain Grower,	E. L. White, Danville, -----------------
88	Griffith & Boyd Co.'s XX Potash Manure,	Passmore & Co., Nottingham, ----------
1000	Griffith & Boyd Co.'s XX Potash Manure,	West Manheim United Farmers Association, Hanover.
	S. M. HESS & BROTHER, INC., SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., PHILADELPHIA, PA.	
350	Soluble Phosphate and Potash, ------------	H. M. Stomm, Loganton, ---------------
	THE HUBBARD FERTILIZER COMPANY, BALTIMORE, MD.	
917	Hubbard's High Grade Potash Mixture, --	Merton E. Haines, Pleasant Grove, ----
153	Hubbard's Phosphate and Potash, --------	Glossner Implement Co., Lock Haven, --
826	Hubbard's Phosphate and Potash, --------	L. Hill, Beach Haven, -----------------
1081	Hubbard's Phosphate and Potash, --------	A. E. Woodruff & Son, Wysox, --------
	INTERNATIONAL AGRICULTURAL CORPORATION, BUFFALO FERTILIZER WORKS, BUFFALO, N. Y.	
606	Buffalo Ten Two, --------------------------	G. M. Reichart, Parkers Landing, ------
	LEBANON FERTILIZER WORKS, LEBANON, PA.	
37	Levan's Planters Pride, -------------------	F. P. Backestow, Palmyra, --------------
246	Levan's Planters Pride, -------------------	J. S. Cole, Millville, -------------------
171	Levan's Standard Potash Compound, ------	Monroe Savidge, Hegins, ---------------
368	Levan's Standard Potash Compound, ------	Solomon & Waltz, Antes Fort, ----------
	FRED E. LORD, ESPY, PA.	
267	Columbia County Fall Special, ------------	M. J. Hess, Bloomsburg, ----------------
	THE MILLER FERTILIZER CO., BALTIMORE, MD.	
732	Clinch Phosphate, --------------------------	Miller Harkins, Hickory Hill, ------------
338	Miller's 4% Alkaline, -----------------------	A. S. Raffensberger, East Waterford, --
	NITRATE AGENCIES COMPANY, NEW YORK, N. Y.	
290	0-8-3 Alkaline Special, ---------------------	John Williams, Moscow, ------------------
	OXFORD PACKING WORKS, OXFORD, PA.	
729	O. P. W. Rock and Potash, ---------------	Oxford Packing Works, Oxford, --------

POTASH FERTILIZERS—Continued.

Moisture.	PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	$	
2.43	11.73	11.00	10.35	10.00	1.38	1.00	2.11	2.00	-------	2.11	39 00	552
7.15	10.98	-------	10.64	10.00	0.34	-------	1.93	2.00	1.93	-------	32 00	1115
8.29	11.70	10.50	10.88	10.00	0.82	0.50	1.90	2.00	1.90	-------	28 00	240
7.54	12.10	-------	11.22	10.00	0.88	-------	2.05	2.00	2.05	-------	25 50	500
5.66	12.12	-------	11.28	10.00	0.84	-------	2.04	2.00	2.04	-------	26 00	505
3.76	11.11	-------	10.69	10.00	0.42	-------	2.47	2.00	2.47	-------	27 50	90
6.92	11.20	-------	10.34	10.00	0.86	-------	2.61	2.00	2.61	-------	31 00	222
4.21	11.51	-------	10.49	10.00	1.02	-------	5 52	5.00	5.52	-------	34 00	88
4.51	13.26	-------	11.58	10.00	1.68	-------	5.06	5.00	5.06	-------	23 75	1000
3.15	12.38	11.00	10.72	10.00	1.66	1.00	2.11	2.00	0.50	1.61	33 75	350
4.07	12.06	11.00	11.16	10.00	0.90	1.00	*3.33	4.00	3.33	-------	31 00	917
6.97	12.78	11.00	10.70	10.00	2.08	1.00	2.54	2.00	2.54	-------	-------	153
2.88	11.61	11.00	*8.65	10.00	2.96	1.00	2.24	2.00	2.24	-------	-------	826
7.21	12.71	11.00	11.23	10.00	1.48	1.00	2.16	2.00	2.16	-------	30 00	1081
4.27	12.18	11.00	10.46	10.00	1.72	1.00	*1.71	2.00	1.71	-------	40 00	606
9.86	14.64	13.00	14.26	12.00	0.38	1.00	1.91	2.00	1.30	0.61	37 00	37
5.94	12.92	13.00	12.40	12.00	0.52	1.00	2.00	2.00	1.80	0.20	34 36	246
3.49	13.14	13.00	12.66	12.00	0.48	1.00	4.56	4.00	4.56	-------	35 00	171
5.65	13.44	13.00	13.18	12.00	0.26	1.00	4.41	4.00	4.41	-------	57 00	368
8.58	13.25	12.50	12.79	12.00	0.46	0.50	5.20	5.00	5.20	-------	-------	267
3.83	12.44	-------	11.66	10.00	0.78	0.50	*1.55	2.00	1.55	-------	30 00	732
3.17	11.93	-------	10.99	10.00	0.94	-------	*3.27	4.00	3.27	-------	35 00	338
2.85	9.42	9.00	9.26	8.00	0.16	1.00	3.38	3.00	-------	3.38	28 50	290
3.25	12.95	10.50	12.35	10.00	0.60	0.50	5.83	5.00	5.83	-------	36 00	728

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*Deficient.

TABLE V.—ROCK AND

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	PATAPSCO GUANO COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
1028	Baltimore Soluble Phosphate,	Frank Waite, Tyrone,
859	Patapsco Potash Mixture,	George Schell, Vicksburg,
1171	Patapsco Soluble Phosphate and Potash,	F. P. Waite, Tyrone,
	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.	
509	Piedmont Superphosphate and Potash,	W. S. Minnion, Meadville,
	RASIN MONUMENTAL COMPANY, BALTIMORE, MD.	
258	Rasin's Phosphate and Potash Fertilizer,	H. B. Low & Son, Orangeville,
262	Rasin's Special Phosphate and Potash,	H. B. Low & Son, Orangeville,
439	Rasin's Victoria Phosphate and Potash,	Oxford Grain & Hay Co., Oxford,
	READING CHEMICAL COMPANY, READING, PA.	
161	Soluble Grain Mixture,	C. E. Frazier, Mill Hall,
	ROBERT A. REICHARD, ALLENTOWN, PA.	
1232	Reichard's American Eagle,	Robert A. Reichard, Allentown,
1211	Reichard's Farmers Favorite,	J. P. Kunsman, Hellertown,
	F. S. ROYSTER GUANO CO., BALTIMORE MD.	
682	Royster's 8-5 Phosphate and Potash,	F. E. Deveny, Forrest City,
272	Royster's 8-5 Phosphate and Potash,	J. A. Gardner Moscow,
536	Royster's 10-2 Phosphate and Potash,	Paul Clark, Beallsville,
565	Royster's 10-2 Phosphate and Potash,	Tionesta Milling Co., Tionesta,
1118	Royster's 10-2 Phosphate and Potash,	Whitenight & Kschinka, Bloomsburg,
	SWIFT & COMPANY, BALTIMORE, MD.	
622	Swift's Farmers Home,	E. B. Fritz & Sons Co., Quarryville,
1090	Swift's Farmers Home,	W. J. Norton, New Albany,
837	Swift's Farmers Home,	A. H. Ulsh & Sons, Millerstown,
1039	Swifts Red Steer 10-8 Fertilizer,	H. E. Nicklin, Sandy Lake,
1082	Swift's Wheat Grower Phosphate and Potash,	E. H. Johnston, Ulster,
974	Swift's Wheat Grower Phosphate and Potash,	S. G. Updegraff & Son, Williamsport,
	I. P. THOMAS & SON COMPANY, PHILADELPHIA, PA.	
379	Alkaline Fertilizer 0-10-2,	Amos R. Herr, Elizabethtown,
236	Alkaline Fertilizer 0-10-2,	Geo. B. Kase, Danville,
854	Alkaline Fertilizer 0-10-2,	Frank Maze, Winfield,
829	Special Alkaline 0-12-3,	Ralph Hethrington, Ringtown,
1013	Special Alkaline 0-12-3,	C. E. Starr, Three Springs,
	VIRGINIA-CAROLINA CHEMICAL COMPANY OF DELAWARE, BALTIMORE, MD.	
129	V. C. Standard Phosphate and Potash,	Chester County Association of Farmers, Kelton.
	THE WORLD'S FERTILIZER PROCESS CO., SHARPSBURG, PA.	
1107	Shur Gro,	Theo. M. Hammer, Greensburg,
229	Shur Gro,	E. E. Renn & Son, Mausdale,
954	Shur Gro,	Smith's Hardware, Ridgway,
420	Shur Gro,	Yeakel & Huzzard, Norristown,
	YORK CHEMICAL WORKS, YORK, PA.	
916	Dempwolf's Ten and Two,	Merton E. Haines, Pleasant Grove,
502	Dempwolf's Ten and Two,	Enos H. Horst, Chambersburg,
95	Dempwolf's Ten and Two,	Harry Pyle & Sons, Chadds Ford Junction,
254	Dempwolf's Twelve and Two,	Irvin Robbins, Benton,
912	Dempwolf's Twelve and Four,	Brown & Rea, Quarryville,
94	Dempwolf's Twelve and Four,	Harry Pyle & Sons, Chadds Ford Junction,
255	Dempwolf's Twelve and Four,	Irvin Robbins, Benton,
		Average,

POTASH FERTILIZERS—Concluded.

Moisture.	PHOSPHORIC ACID.						POTASH.				Selling price per ton at place of selection.	Chemist's number.
	Total.		Available.		Insoluble.							
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.	Present as sulphate.		
%	%	%	%	%	%	%	%	%	%	%	$	
6.21	12.84	13.00	*11.70	12.00	1.14	1.00	2.90	3.00	2.90	-------	35 00	1028
6.75	12.01	11.00	11.31	10.00	0.70	1.00	3.82	4.00	3.82	-------	36 00	859
7.41	10.27	11.00	*9.50	10.00	0.77	1.00	2.16	2.00	2.16	-------	-------	1171
6.41	11.57	--------	*11.17	12.00	0.46	--------	*1.99	5.00	1.99	-------	40 00	569
9.06	11.56	11.00	*9.80	10.00	1.76	1.00	2.15	2.00	2.15	-------	28 75	258
7.06	12.01	11.00	10.37	10.00	1.64	1.00	5.00	5.00	5.00	-------	34 75	262
5.69	16.02	13.00	13.96	12.00	2.06	1.00	2.10	2.00	2.10	-------	30 00	439
9.91	10.79	--------	10.09	10.00	0.70	--------	*1.78	2.00	1.78	-------	30 75	161
2.91	12.09	11.00	10.60	10.00	1.49	1.00	2.06	2.00	2.06	-------	26 85	1232
1.71	9.74	9.00	8.20	8.00	1.54	1.00	5.22	5.00	5.22	-------	40 00	1211
2.07	10.94	8.50	9.70	8.00	1.24	0.50	4.90	5.00	4.90	-------	42 00	682
1.88	9.43	8.50	8.97	8.00	0.46	0.50	5.19	5.00	5.19	-------	40 00	272
4.54	11.65	10.50	10.47	10.00	1.18	0.50	2.29	2.00	2.29	-------	36 00	536
5.74	11.67	10.50	10.79	10.00	0.88	0.50	2.05	2.00	2.05	-------	35 00	565
7.27	12.10	10.50	11.36	10.00	0.74	0.50	2.14	2.00	2.14	-------	32 25	1118
3.57	12.20	10.00	11.18	10.00	1.02	--------	4.23	4.00	4.23	-------	32 00	622
3.62	11.40	10.00	10.52	10.00	0.88	--------	4.00	4.00	4.00	-------	40 00	1090
6.67	11.04	10.00	10.04	10.00	1.00	--------	4.31	4.00	4.31	-------	33 00	837
2.23	11.28	10.00	10.52	10.00	0.76	--------	8.15	8.00	8.15	-------	44 00	1039
3.80	13.68	12.00	12.54	12.00	1.14	--------	2.41	2.00	2.41	-------	30 00	1082
2.72	13.86	12.00	12.60	12.00	1.26	--------	2.76	2.00	2.76	-------	32 00	974
7.68	11.72	10.50	11.40	10.00	0.32	0.50	1.87	2.00	1.87	-------	31 50	879
4.85	11.56	10.50	11.26	10.00	0.30	0.50	2.02	2.00	2.02	-------	30 50	236
8.06	11.17	10.50	10.81	10.00	0.36	0.50	*1.76	2.00	1.76	-------	-------	854
4.07	13.59	12.50	12.99	12.00	0.60	0.50	3.12	3.00	3.12	-------	-------	829
5.96	14.31	12.50	13.87	12.00	0.44	0.50	3.19	3.00	3.19	-------	36 50	1013
4.83	12.47	11.00	10.81	10.00	1.66	1.00	2.15	2.00	2.15	-------	37 10	129
†1.68	†7.59	5.00	†6.91	5.00	†0.68	--------	A†1.85	2.00	-------	-------	Per 10 lbs † 65	1107
†1.95	†6.59	5.50	†6.03	5.00	†0.56	0.50	A†1.95	2.00	-------	-------	†55 00	229
†2.87	†7.22	5.50	†6.52	5.00	†0.70	0.50	A†2.03	2.00	-------	-------	†94 00	954
†1.72	†6.58	5.50	†5.72	5.00	†0.86	0.50	A†2.30	†2.00	-------	-------	†60 00	420
2.54	10.88	--------	10.34	10.00	0.54	--------	2.14	2.00	2.14	-------	27 50	916
5.72	11.89	--------	11.01	10.00	0.88	--------	2.15	2.00	2.15	-------	28 00	502
3.29	10.26	--------	10.04	10.00	0.22	--------	2.19	2.00	2.19	-------	32 00	95
10.33	12.46	--------	*11.80	12.00	0.66	--------	2.37	2.00	2.37	-------	-------	254
2.92	13.44	--------	12.90	12.00	0.54	--------	4.39	4.00	4.39	-------	32 00	912
4.51	13.01	--------	12.22	12.00	0.79	--------	4.81	4.00	4.81	-------	38 00	94
10.12	12.82	--------	12.56	12.00	0.26	--------	4.07	4.00	4.07	-------	-------	265
5.01	11.86	--------	10.94	--------	0.92	--------	3.13	--------	-------	-------	$33.78	------

* Deficient. A Potash present as carbonate. † Excludede from average.

TABLE VI.—MISCEL

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	NITRATE OF SODA.	
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
660	Nitrate of Soda,	G. R. Clark, Scranton,
957	Nitrate of Soda,	E. D. Everts Hardware Co., Warren,
206	Nitrate of Soda,	H. F. Gump & Son, Everett,
	ARMOUR FERTILIZER WORKS, BALTIMORE, MD.	
199	Nitrate of Soda,	W. D. Blackburn, Bedford,
	ASSOCIATED CHEMICAL COMPANY, HAGERSTOWN, MD.	
60	Nitrate of Soda,	J. M. Lucas, Valley View,
	BAUGH & SONS COMPANY, BALTIMORE, MD.	
652	Nitrate of Soda,	Manchester Grange Co-operative Association Emigsville,
1142	Nitrate of Soda,	Routch & Swartzle, Clearfield,
933	Nitrate of Soda,	F. R. Varcol, Waymarth,
	BOWKER FERTILIZER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURE CHEMICAL NEW YORK, N. Y.	
275	Nitrate of Soda,	B. E. & J. F. Cokely, Scranton,
659	Nitrate of Soda,	A. E. Scamons, Factoryville,
	THE COE-MORTIMER COMPANY, SUBSIDIARY OF THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
344	Nitrate of Soda,	Henry S. Brown, Cocolamus,
307	Nitrate of Soda,	Oscar Van Bushkirk, Bald Mount,
	CONSUMERS CHEMICAL CORPORATION, AFFILIATED WITH VIRGINIA-CAROLINA CHEMICAL CO., OF DELAWARE, NEW YORK, N. Y.	
937	Nitrate of Soda,	H. S. Lockwood, S. Cannan,
	GRIFFITH & BOYD CO., BALTIMORE, MD.	
1048	Griffith & Boyd Co.'s Nitrate of Soda,	Harmony Cereal Co., Harmony,
	KEYSTONE GRANGE EXCHANGE, MANSFIELD, PA.	
785	Nitrate of Soda,	Big Creek Grange No. 1559, Lehighton,
	LEBANON FERTILIZER WORKS, LEBANON, PA.	
173	Nitrate of Soda,	Hegins Grange, Hegins,
685	Nitrate of Soda,	Solomon & Waltz, Antes Fort,
	NITRATE AGENCIES COMPANY, NEW YORK, N. Y.	
299	NACO Brand Nitrate of Soda,	Hill Side Home, Clark Summit,
1247	NACO Brand Nitrate of Soda,	Joseph Robinson, Tunkhannock,
287	NACO Brand Nitrate of Soda,	John Williams, Moscow,
168	Pennsylvania Farmers Association Brand Nitrate of Soda.	Clinton County Cooperative Association, Lock Haven.
834	Pennsylvania Farmers Association Brand Nitrate of Soda.	Schuylkill Cooperative Growers Association Tamaqua.

LANEOUS FERTILIZERS.

Moisture.	NITROGEN.		TOTAL PHOSPHORIC ACID.		POTASH.			Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present at muriate.		
%	%	%	%	%	%	%	%	$	
1.63	15.48	15.00	----	----	----	----	----	71 00	666
1.52	15.52	15.00	----	----	----	----	----	120 00	957
1.13	15.90	15.00	----	----	----	----	----	80 00	206
1.77	15.70	14.81	----	----	----	----	----	70 00	199
2.04	15.42	15.00	----	----	----	----	----	----	60
1.68	15.74	15.23	----	----	----	----	----	65 00	652
0.51	15.98	----	----	----	----	----	----	70 00	1142
0.76	15.96	15.23	----	----	----	----	----	100.00	933
1.66	15.60	15.00	----	----	----	----	----	120 00	275
2.67	15.40	15.00	----	----	----	----	----	70 00	650
0.97	16.08	15.00	----	----	----	----	----	69 33	344
1.11	15.64	15.00	----	----	----	----	----	67 50	307
2.56	15.66	14.82	----	----	----	----	----	70 00	937
0.97	15.96	15.00	----	----	----	----	----	78 00	1048
1.02	15.90	15.23	----	----	----	----	----	65 00	785
1.05	15.94	15.01	----	----	----	----	----	----	173
1.65	15.74	15.01	----	----	----	----	----	74 50	685
0.70	15.92	15.00	----	----	----	----	----	60 40	299
0.89	15.92	15.00	----	----	----	----	----	65 00	1247
1.88	15.70	15.00	----	----	----	----	----	65 75	287
0.92	15.84	----	----	----	----	----	----	66 65	168
1.63	15.64	----	----	----	----	----	----	----	834

TABLE VI.—MISCEL

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	PIEDMONT MT. AIRY GUANO CO., BALTIMORE, MD.	
990	Nitrate of Soda,	G. N. Bamberger, Etters,
	READING BONE FERTILIZER CO., READING, PA.	
175	Nitrate of Soda,	W. H. Maurer, Hegins,
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
694	Nitrate of Soda,	Chaafels Seed Store, Williamsport,
	SWIFT & COMPANY, BALTIMORE, MD.	
936	Swift's Nitrate of Soda,	H. S. Lockwood, S. Cannan,
		Average,
	SULPHATE OF AMMONIA.	
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
65	Sulphate of Ammonia,	Samuel Buffington, Sacramento,
197	Sulphate of Ammonia,	John A. Crilly, Imler,
	THE BARRETT COMPANY, NEW YORK, N. Y.	
705	Arcadian Sulphate of Ammonia,	George Dodson, Shickshinny,
491	Arcadian Sulphate of Ammonia,	Blair Knisely, Reynoldsdale,
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
62	Sulphate of Ammonia,	C. G. Updegrave, Sacramento,
	TANKAGE	Average,
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
111	Ground Tankage,	H. P. Passmore & Brother, Oxford,
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
662	Baugh's High Grade Tankage,	B. E. & J. F. Cokely, Scranton,
656	Baugh's High Grade Tankage,	Manchester Grange Co-Operative Association, Emigsville.
	THE BERG COMPANY, PHILADELPHIA PA.	
717	Ground Animal Tankage,	West Chester Pomona Grange Exchange No. 3, West Chester.
	LEBANON FERTILIZER WORKS, LEBANON, PA.	
247	Levan's Animal Tankage,	J. S. Cole, Millville,
804	Levan's Animal Tankage,	Jno. Kunkle, Mahanoy City,
684	Levan's Animal Tankage,	Solomon & Waltz, Antes Fort,
	THE MILLER FERTILIZER CO., BALTIMORE, MD.	
68	Tankage,	G. H. Ostholthoff, Reading,
	RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.	
128	Tankage,	Chester County Association of Farmers, Kelton.
	F. L. WINNER, LOCK HAVEN, PA.	
346	Tankage,	F. L. Winner, Lock Haven,
		Average,
	KAINIT.	
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
239	Genuine German Kainit,	James H. Neese, Howard,

LANEOUS FERTILIZERS—Continued.

Moisture.	NITROGEN.		TOTAL PHOSPHORIC ACID.		POTASH.			Selling price per ton at place of selection.	Chemist's number.
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present as muriate.		
%	%	%	%	%	%	%	%	$	
0.94	15.64	--------	--------	--------	--------	--------	--------	65 00	990
1.51	15.52	--------	--------	--------	--------	--------	--------	--------	175
1.69	15.80	15.22	--------	--------	--------	--------	--------	85 00	694
0.88	15.50	14.82	--------	--------	--------	--------	--------	70 00	936
1.37	15.73	--------	--------	--------	--------	--------	--------	$75 82	--------
0.47	20.68	19.00	--------	--------	--------	--------	--------	76 00	65
0.55	21.42	20.16	--------	--------	--------	--------	--------	64 00	197
0.29	21.58	20.75	--------	--------	--------	--------	--------	79 20	†705
0.33	21.20	20.75	--------	--------	--------	--------	--------	80 00	491
0.59	21.36	--------	--------	--------	--------	--------	--------	71 00	62
0.44	21.25	--------	--------	--------	--------	--------	--------	$74 04	--------
4.41	5.95	4.94	15.25	--------	--------	--------	--------	42 00	111
5.22	6.06	5.76	11.99	3.50	--------	--------	--------	80 00	662
11.19	6.82	5.76	10.20	4.00	--------	--------	--------	--------	656
4.12	5.15	4.53	*14.22	15.00	--------	--------	--------	39 00	717
5.62	5.25	4.94	8.84	9.00	--------	--------	--------	51 00	247
5.34	5.55	4.94	*8.42	9.00	--------	--------	--------	45 00	804
4.85	5.23	4.94	8.85	9.00	--------	--------	--------	65 00	†684
6.01	5.20	--------	4.32	--------	--------	--------	--------	--------	58
5.17	6.25	6.06	11.67	7.00	--------	--------	--------	50 90	128
4.84	6.42	5.00	*12.47	13.00	--------	--------	--------	50 00	346
5.67	5.79	--------	10.62	--------	--------	--------	--------	$52 86	--------
1.01	--------	--------	--------	--------	14.85	12.40	14.85	29 16	332

*Deficient.

TABLE VI.—MISCEL

Chemist's number.	Name of Manufacturer and Brand.	Sample Taken From—
	RASIN-MONUMENTAL COMPANY, BALTIMORE, MD.	
117	Genuine Imported Kaint,	E. H. Keen & Son, Parkesburg,
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
703	Genuine German Kaint,	George Dodson, Shickshinny,
		Average,
	MURIATE OF POTASH.	
	THE AMERICAN AGRICULTURAL CHEMICAL CO., NEW YORK, N. Y.	
672	Muriate of Potash,	B. Vansickle, Cortez,
	BAUGH & SONS COMPANY, PHILADELPHIA, PA.	
655	Muriate of Potash,	Manchester Grange Co-Operative Association, Emigsville.
	GRIFFITH & BOYD CO., BALTIMORE, MD.	
962	Griffith & Boyd Co.'s Muriate of Potash,	J. E. Callahan & Sons, Montoursville,
	THE MILLER FERTILIZER CO., BALTIMORE, MD.	
371	Potash,	G. H. Ostholthoff, Reading,
	NITRATE AGENCIES COMPANY, BALTIMORE, MD.	
169	Pennsylvania Farmers Association Brand Muriate of Potash,	Clinton County Cooperative Association, Lock Haven.
	F. S. ROYSTER GUANO COMPANY, BALTIMORE, MD.	
704	Muriate of Potash,	George Dodson, Shickshinny,
		Average,

LANEOUS FERTILIZERS—Concluded.

Moisture.	NITROGEN.		TOTAL PHOSPHORIC ACID.		POTASH.			Selling price per ton at plac of selection.	Chemist's number.
	Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.	Present at muriate.		
%	%	%	%	%	%	%	%	$	
0.58	----------	----------	----------	----------	16.09	12.00	16.09	21 50	117
0.95	----------	----------	----------	----------	19.15	----------	19.15	28 00	703
0.84	----------	----------	----------	----------	16.70	----------	----------	$26 22	
0.61	----------	----------	----------	----------	51.76	48.00	51.76	160.00	672
0.34	----------	----------	----------	----------	52.71	48.00	52.71	101 00	655
0.54	----------	----------	----------	----------	50.18	50.00	50.18	120 00	962
0.36	----------	----------	----------	----------	50.17	----------	50.17	----------	371
0.20	----------	----------	----------	----------	52.17	49.00	52.17	96 65	169
1.21	----------	----------	----------	----------	49.83	49.00	49.83	110.20	704
0.54	----------	----------	----------	----------	51.14	----------	----------	$117 57	----------

*Deficient.